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Seminar on Strategies to Reduce Malnutrition in India

May 2-3, 1984

A Report

National Institute of Public Cooperation and Child Development
5, Siri Institutional Area, Hauz Khas, New Delhi - 110 016.

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REPORT OF THE SEMINAR ON STRATEGIES TO REDUCE MALNUTRITION IN INDIA

ORGANIZED BY

THE NATIONAL INSTITUTE OF PUBLIC COOPERATION AND CHILD DEVELOPMENT
NEW DELHI

May 2-3, 1984

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INTRODUCTION

Nutrition had certainly found its place from the very beginning of the National efforts towards planned development. Augmenting food production with a view to achieving self-sufficiency was one of the earliest moves in this direction. Success was achieved with regard to cereal production, when high yielding variaties of good nutritive value were introduced. However production of pulses, edible oils, milk and fish lagged behind, failing thereby to provided nutritionally adequate diets to the people. A large section of the Indian population cannot afford to consume nutritionally adequate food even in terms of energy, despite the fact that there is a good buffer stock of cereals in Indian godowns.

1.1 The Government of India has taken on the responsibility of feeding vulnerable groups through some of its intervention programmes. These programmes should ideally be used as short term measures to tide over immediate crisis. Strangely, they form part of the major planks of the Nutrition programmes, as the emergency situation never appears to culminate. Either the problem is too grave or the efforts are lost in the conduit that positive results are not too obvious.

1.2 Malnutrition is multifacted, and therefore it calls for a multipronged approach to tackle it effectively. Supplementary nutrition which is linked with health services environmental sanitation and economic activities would certainly have a positive effect on the nutritional improvement of vulnerable groups.

1.3 Special problems like goitre, nutritional blindness and anemia have been tackled through National Programmes. Goitre control was envisaged right from the First Five Year Plan Period. Yet the problem is still rampant in the States of Uttar Pradesh, Himachal Pradesh, Jammu & Kashmir, Gujarat and Rajasthan and some pockets have been discovered in Delhi.

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1.4 There are around 170 million people in India suffering from endemic goitre and by 2000 A.D. their number may well go upto 200 million. The technology for goitre control is well within the national competence and does not need foreign expertise. The eradication of goitre can be achieved even under the present socio-economic circumstances. There is no need to wait for the eradication of poverty or for substantial improvement in the socio-economic condition of the people before success in the control of goitre can be achieved. All that is really needed is inter-sectoral coordination, efficient management and above all genuine concern towards this problem.

1.5 Iron-deficiency anaemia causes physical and mental sluggishness, including fatigue and reduction in physical performance. It is a major nutrition problem in India with an incidence varying between 60-70 percent; being highest among women and young children. Low intakes and poor absorption of dietary iron appear to play an important role in the etiology of iron deficiency anaemia.

1.6 Vitamin A deficiency and xerophthalamia are among the most widespread and serious nutritional disorders that affect mankind. A Survey conducted by the NNMB (1981) shows that 0.55 percent of infants and 4.3 percent of preschool children show signs of Vitamin A deficiency. Recently, international, governmental and private agencies have realised the gravity of the problem and have made concerted efforts in the way of research field surveys, action programmes and educational activities. These measures are beginning to bear fruit and have already provided some degree of control of the problem. There is every reason to believe that their impact will increase in momentum and will be reinforced in the years ahead.

1.7 Nutritional upliftment cannot be achieved through the dedicated efforts confined to one or two departments alone but requires an intergrated effort of such diverse sectors as Agriculture, Employment, Education, Health and Social Welfare.

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1.8 Despite three decades of advocacy, research and action programmes, the problem of malnutrition has yet to be effectively tackled. At this juncture, while at the threshold of drafting the seventh five year plan all those involved share a common concern, not to repeat mistakes of the past and evolve strategies for the future which would be effective in combating the problems of malnutrition. It is in this context that the National Institute of Public Cooperation and Child Development, convened the seminar on 'Strategies for Reducing Malnutrition in India' at its premises in New Delhi on May 2-3, 1984.

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OBJECTIVES

The main objectives of the seminar were:

i) To have a realistic look at the on-going programmes for combating malnutrition.

ii) To discuss the future thrusts and the anticipated coverage of the individual programmes.

iii) To develop suitable strategies to be considered for the future programmes.

III

PARTICIPANTS

There were 32 participants comprising senior officials from the Ministry of Agriculture, Food and Civil Supplies, Health and Family Welfare, Social Welfare, Rural Development as well as nutritionists and demographers and experts from other related disciplines who attended the seminar. International agencies such as WHO, UNICEF USAID and CARE were also represented. (List of participants at ANNEXURE-I).

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IV

DELIBERATIONS

During the course of the two day seminar, plenary sessions as well as group discussions were held and background papers pertaining to various programmes in different governmental sectors were presented. The session on review of programmes under various sector was chaired by Shri M.S. Dayal, Jt. Secretary, Ministry of Social Welfare. A critical review of lessons learnt from past programmes was also presented at the plenary session. This helped to set the tone for future discussions. The seminar programme included.

- Inauguration
- Paper presentation by different sectors.
- Discussions in subgroups and formulation of future strategies.
- VALEDICTORY SESSION - at Annexure -III (Details of the programme at ANNEXURE-II).

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A. OPENING SESSION

Dr. D.Paul Chowdhry, Director, NIPCCD welcomed the participants of the seminar. He gave a brief outline of the seminar and said, this programme was one of the series of steps taken by the NIPCC for promotion of child survival and development. He said that these were not mere academic exercises but found a place in National Planning and Policies, for example the recommendations at the Seminar on 'Strategies for reducing Infant Mortality in India' were accepted in toto by the working group on MCH for formulating the VIIth five year plan. He hoped that the coutcome of this seminar would certainl find a place in our National Plans and Programmes aimed at combating the problem of malnutrition.

B. VALEDICTORY SESSION

Dr. Harcharan Singh, Jt. Adviser, Planning Commission in his Valedictory Address brought out the importance of the integration of the various professionals, that work in the wide sphere of 'Nutrition He felt that if Nutrition Programmes failed, it was because the professionals could not convice the politicians effectively. The professionals should know where to strike the compromise between the ideal and practical solutions to the problems confronted. The highl developed technological channels of communications should be utilise in creating public awareness about nutritional problems and their rol in alleviating them.

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REVIEW OF GOVERNMENT PROGRAMMES

VALEDICTORY SESSION

V

LESSEONS LEARNT FROM PAST EXPERIENCE

Dr. KALYAN BAGCHI
NUTRITION CONSULTANT
INDIAN COUNCIL OF MEDICAL
RESEARCH, NEW DELHI

V

LESSONS LEARNT FROM PAST EXPERIENCE

Malnutrition as a national problem has definitely created awareness among politicians, decision makers and planners in recent years in India. For almost half a century, this has been an area of considerable interest for the scientific community consisting of medical and health scientists, food and agricultural scientists, and many others. However, it is a known fact that without a strong political will for the control of malnutrition in a country, no amount of scientific discussions in seminars, workshops and meetings will make much progress in its control. Every year in India, we have at least a dozen of national workshops and seminars, like the one we are having now, regarding the urgency and the methods for controlling malnutrition. However, in these 'get togethers', those who are already converted come and utter what have been known for years. Each person will vehemently try to defend what he/she is implementing. The result is that after the Seminar, the nutrition programmes are exactly what they were before.

5.2 Two important points need consideration. Firstly, it is extremely important that nutritional advocacy should be an important responsibility of all technical sectors concerned with the control of malnutrition and in such advocacy, the administrators, planners and the decision makers will have to be roped in and have to be convinced that there are strategies through which malnutrition could be brought under control within the existing framework of the country and with the national and technical resources available. I repeat, <u>under control</u> - and not talk of eradication. If nutrition programmes suffered inin the past due to lack ofsupport and low priority, the blame should be placed squarely on the nutritionists. How effectively have the nutritionists been able to convince the decision makers and those in charge of financial resources that there are measures which can significantly reduce any form of malnutrition? The health sector is the best example of this

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inadequacy and it is no wonder that nutrition measures cannot compete with other health programmes in securing funds and other resources. It is essential that each sector will have to convince their own decision makers regarding the deleterious effects of malnutrition on their sectoral objectives and how could they be reversed.

5.3 The second important step is to identify failure and success stories of each sector. In a seminar like this, it is important that the people concerned with the control of malnutrition from different sectors of the Government might do a "soul searching" as far as their sectoral programmes are concerned and identify the causes of failures and successes in the past. Frankly, the success stories in the field of malnutrition control in India, and in fact in most other developing countries, are relatively rare. However, the unfortunate fact is that a few success stories are repeated so often and in such an inflated manner over years that it definitely impairs the trend to develop alternative or better strategies. A common trend is to conduct high-input pilot projects with good impact - and assume that such measures are replicable at the national level. Critical analysis of each programme is most desirable for its improvement. This type of exercise is extremely important in India now in view of the fact that the country is in the process of developing a national nutrition policy. It is so refreshing to note that this Seminar is being held for precisely the same purpose. Though of a very short duration, it might induce a self-analytic trend in the different sectoral programmes, which eventually might lead to the development of new strategies on which the proposed national nutrition policy will be based.

Lessons learnt - did we?

5.4 What have we learnt from past experience or should have learnt? In India, measures for malnutrition control at the national level are in operation during the last 30 to 40 years. It is well known that these measures started with medical and health measures, mostely treatment oriented, in view of the earlier impression that malnutrition is a medical and health problem. It was soon learnt that this can only touch the fringe of the problem and, therefore, the emphasis went on to food production and agriculture expansion and no wonder, the measure during the second phase of our efforts to control malnutrition revolved around food production and processing. Soon, the lesson was learnt that neither the health nor the food and agriculture measures are by any means the only solution for malnutrition and that many other factors are closely associated in the precipitation of malnutrition in the community. Thus, community development came in the forefront in India in the control of malnutrition. The Applied Nutrition Programme of sixties which most of you are aware of, started on this assumption. The central thrust was a co-ordinated approach at the community level consisting of family level food production education and consumption. The lesson that was learnt from this phase is that coordinated effort is a simple and understandable word but is difficult to translate into action. The evaluation of the Applied Nutrition Programme did very clearly bring out these points.

Malnutrition is a social ill

5.5 The lessons learnt from these three phases led

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us to the present phase of malnutrition control which depends on the realisation that malnutrition is a social ill and is a manifestation of socio-economic deprivation. Throughout the world, both in the developing and in the developed countries, malnutrition is mostly observed in people who are socio-economically deprived. Thus, by and large malnutrition of poverty unlike malnutrition of affluence which is a self-imposed ill, dominates the world malnutrition scene. The lessons that we are now learning is that unless active measures are undertaken by the State to reduce poverty and all its manifestation, malnutrition is bound to co-exist with us for years. This needs strong political commitment supported by various sectoral measures e.g. reduction of illiteracy, production and distribution of adequate food, reasonable purchasing power, adequate environmental sanitation, a desirable family norm, reasonable health care for all. These are all promoters of nutrition in an indirect manner. The important lesson is that the rigid barrier between these and the conventional nutrition measures should be abolished for total development. It is, therefore, a very right decision in India that the control of malnutrition will and should be with that government sector which is responsible for social welfare which encompasses various measures for social upliftment. The Integrated Child Development Service Programme is one national programme which is almost entirely based on the assumption of social and economic development of those who are poverty-stricken and deprived.

5.6 What is the existing situation? There is not only water-tight compartmenting of sectoral nutrition programmes, but even within the same sector, nutrition is "sliced".

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The best example is the eternal fight between nutrition and MCH within the health sector. Let me tell you that this happens with equal force among bilateral and international organisations.

Nutrition manpower

5.7 Closely related to this approach is the lessor that we should learn regarding the technical manpower to be utilised for nutrition programmes. Fortunately in India, an appropriate lesson has already been learnt that professional nutritionists are not necessarily those who have medical or health qualification nor those who have a doctorate degree in biochemistry, physiology or food technology.

5.8 A professional nutritionist can be any person who has the professional competence in any aspect of nutrition, be it medical, health, child development, food technology, agriculture, economics, social and behavioural sciences, home science and planning. In order to be a professional nutritionist, a person with a professional training in any of these disciplines must undergo additional training in various facets of nutrition. The only exception in India is the Home Science profession. In this connection, I must mention that the most fortunate trend in India is the realisation that the discipline of home science is the only discipline which provides "ready-made" professional nutritionists in the country. The postgraduate training in Home Science with specialisation in Food and Nutrition is possibly the only professional course in this country which gives a

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thoroughly comprehensive training in various aspects of nutrition. For holders of other professional degress e.g. medicine, agriculture, biochemistry, food technology, etc., separate specially designed courses have to be taken to be a professional nutritionist. It is extremely gratifying to note that the nutrition programmes in various parts of India are gradually being managed by those specialised in Foods and Nutrition with the background of Home Science. In fact, in a separate forum recently, I made a point that the term "home science" is a misnomer because in reality the profession gives a training in all aspects of human development and not only the home.

5.9 Turning our attention to other professional training It is obvious that the nutrition component should be made more relevant and realistic. While this is taking place for the agricultural courses under the auspices of the Indian Council of Agricultural Research, similar move is not evident for other courses. This again is a lesson which is taken in a half hearted manner. The glaring example is the inappropriate nutritional training in the medical colleges. It is no secret that a fresh medical graduate, though having expertise in various branches of medicine and surgery, is not aware of the simple and elementary facts about nutrition and dietetics. In innumerable cases, such medically qualified persons, when given the responsibility of supervising nutrition programmes, feel absolutely helpless. This is an area which need immediate attention.

Nutrition Education- thoroughly misused:

5.10 Coming specifically to the activities or measures designed for the control of malnutrition, one immediately

encounters examples which show that some measures are undertaken year after year by numerous sectors without much consideration as to whether this produces impact or not. In other words, there is no effort, for various reasons, to learn lessons from past experience. Nutrition education is possibly the best example of a nutritional activity where efforts are rarely made to ascertain whether the approach being taken for "educating" the general population has produced the desired changes or not. Reviews after reviews at national and international levels have proved beyond dout that nutrition education is an activity which could be quite powerful but possibly is not giving adequate results. Evaluation of nutrition education activities are very few and those cases where this has been done, are only the evaluation of the process e.g. number of sessions held, number of mothers attending each session and number of topics covered. In spite of that, it is always taken for granted that it is easy to collect a group of people, specially mothers, and convey to them certain messages which the educators think can change their existing dietary practices into more desirable practices and it is assumed that thes would be adopted very quickly with the desired results.

5.11 It is interesting to probe a little deeper and to find out the reasons for such actions. Three glaring facts come out. The first is that nutrition education is erroneously regarded as the easiest nutrition measure to implement. Secondly, this does not need much capital nor technical personnel for person-to-person and group sessions excepting the recent trend in some developing countries to use novel equipments like the video. The third reason is

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the "taken for granted" attitude among the programme sponsors that any form of nutrition education is bound to produce impact. The result is a permutation and combination of about half a dozen messages in most programmes. Witness for example the nutritional education component of the ICDS. I do not know if this has ever been evaluated and if so, what are the results? However, I am aware of quite a number of such evaluation efforts in other parts of the world but 50% of them are subjective, biased evaluations and the other 50% which are more analytical have shown very marginal results in most cases. This is an area where one should ponder and find out what lessons have been or should have been learnt.

5.12 There is a happy trend in nutrition education on both the national and international scenes. It is now being increasingly realised that there are behavioural factors which influence the child rearing practices of women in different regions and in different cultures. Without understanding these behavioural factors, to impart 7 or 9 messages is of absolutely no effect.

5.14 You would be happy to know that at the international level, the WHO, the UNICEF and the United Nations University are jointly developing a programme for identifying behavioural factors leading to child bearing and child rearing practices in different parts of the world. The ICMR is in the process of developing a multicentric project in India exactly on these lines and it is proposed that this will be the base on which nutrition education efforts will be built to make them more realistic.

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Feeding programme - the "glamorous intervention"

5.14 The next most common nutrition activity in India is the feeding programme. Such programmes are going on in this country for at least 30 years starting with the massive school meal programme during the 1960's. At almost the same time was the skimmed milk programme sponsored by the UNICEF. Even now, in some States extensive midday meal programme for children and mothers are in operation. In fact, in Tamil Nadu, there is a separate Honourable Chief Minister's Nutritious Meals programme. Supplementary feeding programme is an important and the most costly component of the ICDS. Throughout the world in many countries, numerous feeding programmes were implemented in the past and have either been discarded or are in progress. In most simple terms, it can be regarded as a measure to supplement the inadequacy of food among those who are socio-economically deprived. Several evaluations have been done in this country. What are the lessons we have learnt? By and large, it has been observed that -

a) If such programmes cover those who are at risk of malnutrition or are malnourished, the programme is of very great benefit.

b) in most cases, it is difficult to select beneficiaries who are really in need of such feeding with the result that in order to reach the target of beneficiaries, all available beneficiaries or those who have political and community influence are included in such programme.

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(c) Feeding of cooked meal can pose quite a lot of difficulties in the shape of sanitation and the risk of infections through contaminated food and water.

(d) Whenever take home food supplements are given, there is a great chance that the food so given is shared by others who are not in need of such supplements or such foods are even sold in the open market for cash money.

(e) Whenever supplementary feeding programme is given with the objective of supplementing the inadequate home diet, in practice such feeding is of a substitute nature because invariably the child is not given the food at home since school meal would be given. The total amount of food consumed by the child for the day remains almost the same though of a slightly better quality.

(f) The impact of such feeding on the beneficiaries as brought out by numerous evaluations are of a mixed result. In most cases, the nutritional impact is of doubtful significance. It is indeed true that it can improve the school attendance rate of the children, better school performance and less of absenteeism due to sickness.

5.15 It should be remembered that feeding programme especially of children is possibly a measure which attracts the maximum public attention. In some cases, the programme is misused for political purposes. It should also be recognised that it is the most expensive nutrition measure for promoting child nutrition. It is also true that it is a measure with only short effect. No country in any part of the world could continue indefinitely a feeding programme of such nature. It is, therefore, important to critically analyse how and when such feeding programme should be instituted.

National Nutrition Policy - a new fashion:

5.16 Another important lesson which has been learnt during the last 10 years is about a national nutrition policy. During the early 1970's, the international organisations and some bilateral agencies very strongly recommended the development of national

nutrition policy for going at the roots of the malnutrition problem. In 1974, the World Food Conference convened by the United Nations at Rome recommended very strongly that all developing countries should strive to have a national policy as the base to remove the problem through a multi-sectoral approach. In the same year, WHO and FAO jointly convened an Expert Committee meeting and their report on "Food and Nutrition Strategies for National Development" is an excellent review of the whole situation and what could be done. It is, however, interesting to note that even in spite of all the "Pressures" by the international and bilateral agencies, very few developing countries have indeed produced a national policy. This point is being specially emphasised in view of the fact that the Government of India is in the process of developing such a policy.

5.17 Why is it that the developing countries have not come forward in the development of such a policy? A recent analysis was done by the WHO in an informal manner through an inter-regional conference of National Nutrition Advisers from developing countries. It was realised that the development of a nutrition policy is not an easy matter nor is it a compilation of what is desirable. A policy should always be supported by a plan of action without which the policy is meaningless. Similarly, a plan of action must have set objectives in a phased manner with clearcut targets and time frame. At the same time, the plan of action should also indicate specific responsibility for undertaking each of the tasks in order to reach the goal.

5.18 It is worth mentioning that in order to fix the targets on a time frame it is imperative that we know what is the existing situation. In other words, it means that it is necessary to have a base line data regarding all aspects of nutrition e.g. production of all types of foods which are of concern for nutritional status, economic status of the people in the geographical careers, export-import policies, availability of food and the price structure and many other factors in addition to a comprehensive definition of who is malnourished, where and why. A policy should also first examine the nutritional relevance of the past programmes of various sectors and have as a base a compilation of the potential nutritional influences of all sectoral programmes.

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5.19 It is obvious that a national nutrition policy is not just a statement of what are the desirable activities of each sector in promoting nutrition. The lesson that should be learnt in this respect is that a country desiring to have a fulfledged national nutrition policy should learn from the experiences of other countries making such efforts and take the right steps in sequence culminating in a national policy. Otherwise, a chapter in the national plan or a few pages of wishful thinking can be regarded as a declaration or a statement of strategy and not a policy.

Nutrition monitoring and surveillance - a new trend

5.20 In recent years, there is another aspect of nutrition which is receiving considerable interest and that is the area of nutrition monitoring and surveillance. It should be mentioned here that these two points are some times used interchangeably. In the international field, the word "monitoring" is used for watching the nutritional status of an individual, for instance, monitoring the growth chart whereas the term "surveillance" is used for watching the nutritional status of a country or of a region for taking appropriate action in order to reverse the undesirable trends.

5.21 Nutritional surveillance has got special connotation and an excellent report of the WHO on Nutrition Surveillance should be referred to whenever this process is to be implemented. This is again an area which was very strongly recommended by the World Food Conference of the United Nations and several international and bilateral agencies are actively involved in the development of such programmes in the developing countries. Here again, there is a lot of confusion since it can vary from a system through which a large number of individuals will be monitored at frequent intervals in order to generate information which would be automatically analysed for appropriate action.

5.22 An example in a developing country is the nutrition surveillance system developed by the Government of Malaysia in 1962 through which almost 1.5 million infants and children under 6 years in all parts of the Peninsular Malaysia are monitored every three months and the information analysed through a computor to give continuous information to the planners and decision makers so as to

answer the vital question - who suffers from what type of malnutrition, where and why.

5.23 However, such a process is an extremely expensive process and very few developing countries can afford this. The other example is the national nutrition monitoring done by the National Nutrition Monitoring Bureau of the ICMR where comprehensive surveys are done at yearly or 2-yearly intervals and the information gathered and analysed and the results are available after 1 to 2 years. This is of limited value and is not strictly surveillance since situation needing immediate action is not possible through this conventional survey based system.

5.24 Here again, the lessons should be learnt that whenever a monitoring process is to be established for monitoring the operations of a programme and in some cases the impact, the system should be so developed that it will use simple indicators which can be collected in the hands by the routine peripheral personnel and the analysis of such information can be done in the shortest possible time for taking appropriate action. Data collected for the sake of collection is to be condemned. Such data should be collected which indicate the process or the failure of a process or the impact and on which action could be taken immediately. This is another important lesson which is valid in view of the government's decision to establish monitoring system for monitoring their on-going programmes. A monitoring system which generates data after 2 years of the collection is of absolutely no use excepting to publish papers in scientific journals abroad.

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PAPERS PRESENTED (GOVERNMENT SECTORS)

A. AGRICULTURAL SECTOR

1. Role of Agriculture Sector in reducing malnutrition.

By

Dr. L.M. Jeswani
Ex-Asstt. Director General I.C.A..R

2. Food storage and public distribution system.

By

Sri. P.R. Vishwam Bharan
Joint Manager (Technical)
Central Warehousing Corporation
Ministry of Agriculture.

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* In order to facilitate quick reading of the report, some parts of the papers presented at the seminar have been deleted. However the detailed papers are available at the National Institute of Public Cooperation and Child Development.

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A.

1. ROLE OF AGRICULTURE SECTOR IN REDUCING MALNUTRITION

By

L.M. JESWANI

FOOD - Basic requirement:

Food is the first among the hierarchical needs of human beings. From the millions of species recorded in the world flora, the number of species chosen for domestication is very small. Only about 30 plant species and about 6 animal species meet the total food requirements of global population. Wheat, maize, millets, sorghum, rye and barley contribute nearly half of the calories and proteins consumed by humans. These cereals to-gether with potato, sweet potato, cassava, yams, banana, beans, soyabean and groundnut provide about 90 per cent of all the food requirements in the developing countries like India.

FOOD PRODUCTION IN INDIA

6.2 In India, starting from the beginning of the century, three major phases can be identified in our food production:

a. The first phase from 1900-1947 was marked by a near stagnation in farming as is clear from the growth rate of about 0.3% per annum, although, the population grew from about 284 million in 1901 to about little more than 400 million before independence in 1947.

b. The second phase extending from 1950 to 1980 has been marked by considerable advance in the process of modernisation of agriculture In this period, India began the process of planned development in which agricultural development and food production received priority. During the period between initiation of first five year plan in April, 1980 agricultural production increased by about 2.7%. The population in these decades nearly doubled. The per capita consumption of food grains showed steady improvement, although, per capita pulses consumption showed declining trend.

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c. The third phase which in the eighties will be marked by the need for greater attention to marketing and trade, and to the institutional frame work, which can help to minimise the handicaps of small and marginal farmers and maximise the benefits for intensive agriculture offered by small holdings. Food crop production strategy during the eighties will place increasing emphasis on integrated approaches to disease and pest control, nutrient and energy supply, and also to the production, conservation, consumption and trade.

Three decades of planning era in India have witnessed the process of technological modernisation which has set a pace in Indian Agriculture, more specific to food production.

MOBILISATION OF RESOURCES TO COMBAT MALNUTRITION- ONGOING RESEARCH AND DEVELOPMENT PROGRAMMES FOR INCREASING FOOD PRODUCTION.

High Yielding Variety Programme

6.3 High yielding variety programme was launched in 1966-67. With a modest start of 1.89 million hectares, it increased to 40.13 million hectares by 1978-79, the terminal year of the fifth plan and further to 47.68 million hectares by 1982-83. Target for coverage under high yielding varieties by 1984-85, the terminal year of the sixth plan has been kept at 54.0 million hectares and 100 per cent by 2000 A.D.

6.4 The total food grain production at the beginning of the First Five Year Plan in 1950 was about 55 million tonnes. During 1978-79 terminal year of the fifth plan, the production reached a level of over 130 million tonnes and further to 133 million tonnes in 1981-82 and 149 million tonnes in 1983-84. Food production of 1984-85, terminal year of the sixth plan is anticipated around 154 million tonnes and further to 225 million tonnes by 2000 A.D.

6.5 Demand projections on the average daily diet per capita availability of calories and proteins, per capita demand for food crops in kg/year and total food grains demand in million tonnes for different years/period, compared to base year 1971 will be as presented below:

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Year	Average diet per capita availability		Per capita demand for food crops Kgs/Year					Demand (M.T.)
	Calo-ries	Prot-eins	Rice	Wheat	Coarse Grain	Pulses	Total (food grain)	
1971	2080	50.2	70.35	37.86	44.30	18.74	171.25	-
1985	2480	59.7	78.06	46.00	42.40	24.80	190.99	154.00
2000	2600	62.7	79.09	49.06	40.12	26.41	194.68	225.00

Source: NCA

6.6 A silent revolution has been taking place in the minds of our farming community as a result of the new production technologies through high yielding varieties programmes.

Major objectives of research, development and administration personnel have been to assist in increasing and stablising the field of crop plants and animals for both milk and meat. Several Indian states are densely populated and are confronted with the twin problems of low productivity and instability of production. Additional production has to come largely from productivity improvement and from an increase in the intensity of cropping (i.e. 2 or more crops in a year in the same plot of land).

Improved farming systems:

6.7 It is hardly necessary to stress that the decisions of the farmers are influenced by the entire systems of agriculture around which their day-to-day life revolves. Hence, attention to the farming system as a whole is essential. It is only through such an integrated approach that agriculture can become a potent instrument of generating more jobs and income in the villages. I shall briefly refer to some of the existing and emerging systems in India.

Multiple cropping system in irrigated areas:

(a) Various two three and even four crops sequences are now being followed while promoting multiple-cropping systems; attention should be paid to ensuring that grain and fodder legumes find a place in the rotation. Also, crops having the same pests and diseases should not

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be grown in succession. Unscientific multiple cropping could compou pest and soil-fertility problems, and can become an unmitigated disaster. On the other hand, the introduction of grain and folder legumes in the rotation will contribute towards improved human as well as soil nutrition. Mungbean-rice-wheat rotation is a good method of combining cereals and legumes in north-west India. The new short duration varieties of pigeon-pea-wheat rotation if possibl is a good method of combining cereals and legumes in north-west India. The new short duration varieties of pigeon-pea (Cajanus cajan) have made pigeon-pea-wheat rotation possible. Rice-wheat rotation is becoming popular in parts of Assam and West Bengal.

Rainfed farming: Production possibilities in high rainfall areas are similar to those of irrigated areas. However, in the unirrigate semi-arid areas, commonly referred to as dry-farming areas, considerable production risks exist. Grain legumes and oilseed crops are mostly cultivated in such areas. A wide variety of fruit trees can also be grown keeping the nutritional needs of the area concerne in view. Research thrusts in semi-arid areas should lay stress on water and soil-conservation, and land-use planning. Contingency plans should be developed and introduced so as to minimise the risk of total loss of crops during aberrant weather. It is also necessary to find more profitable crops for some of the semi-arid areas. There are many under-exploited plants with potential economic value.

Plant breeders should develop varieties which can be grown in flood-free seasons in chronically flood-prone areas and drought-escaping varieties in drought-prone areas.

Mixed and intercropping: Various combinations of crops are sown particularly in unirrigated areas by farmers. Not all the combinati currently grown are scientifically sound. Therefore, intercropping systems based on the extent of cooperation generated between the companion crops have to be developed. Among the major components of cooperation are:

(i) Efficient interception of sunlight.

(ii) Ability to tap nutrients and moisture from different depths of the soil.

(iii) Non-overlapping pest sensitivity.

(iv) Introduction of legumes for promoting biological nitrogen fixation and increasing protein availability.

6.8 Kitchen gardening and home fish gardening: Kitchen gardening can be one of the most efficient systems of farming from the point of view of solar and cultural energy conversion. Vegetables rich in beta carotene and iron need to be developed and popularised. If planned intelligently and scientifically, backyard gardens, roof gardens and other methods of growing vegetables and fruits in whatever space is available around mud-huts as well as brick-houses can make a substantial contribution to improved nutrition. Where small ponds are available in large numbers, home fish gardening can be an excellent method of supplementing nutrition and income.

6.9 Forestry and agro-forestry: The importance of improving the productivity of forests cannot be overemphasised. Agro-forestry has been defined as a sustainable management system for land which increases overall production, combines agricultural crops, tree crops, forest plants and/or animals, simultaneously or sequentially. Sylvipastoral, sylvi-horticulture, sylvi-agriculture and other combined land-use systems are extremely important for meeting the food, fuel and fertiliser needs of people in many hilly regions. Plant breeders are yet to pay attention to the breeding of varieties suitable for such systems of sylviculture. Shrubs and trees suitable for raising energy plantations in villages and for initiating 'Gasoline Agriculture' need to be identified and improved.

6.10 Mixed farming: Mixed-farming systems may involve (a) crop-livestock, (b) crop-fish and (c) crop-livestock-fish production programmes. Minimal use of chemical pesticides will be important in such systems so as not to create problems of fish mortality and transfer of toxic residues through the plant/animal man food chain. This will involve incorporation of gene resistance as far as possible and the development of integrated pest-management systems.

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RESEARCH NEEDS IN COMBATING MALNUTRITION:

6.11 We need to develop an agricultural technology where productivity improvement is not simultaneously accompanied by loss in the efficiency of energy conversion. Consdering the utility of biological nitrogen fixation, and the fact that many pulse and oilseed crops may leave reasonable quantities of nitrogen in the field, this mechanism can provide a feasible method of saving non-renewable forms of energy. Besides the urgent need for more pulses and oilseeds, this is yet another reason for stressing the desirability of growing legumes in multiple cropping systems.

6.12 As we look to the decade ahead, more efforts would be needed on development of efficient water control and water use systems both on irrigated and dry farming areas, plant protection and various ways to avoid food losses after harvest for stabliising higher food production levels.

Preventing quantitative and qualitative damage to food Grains:

6.13 Much of the food produced is stored in rural areas for the consumption of the families of farmers. Efforts are needed to minimise losses during storage and to ensure that the consumer gets food of good nutritive quality. Crop varieties resistent to insects in stored grain are being developed to minimise the losses in storage.

Minimising the risk of undesirable factors in Grains:

6.14 From naturally occuring plant toxins: Typical instances of this category are the neurotoxin in Khesari dal (Lathyrus Sativus) causing the crippling paralysis,lathyrism Research efforts at Indian Agriculture Research Institute has led to the identification of varieties, like Pusa 24 with toxin as low as 0.2% (almost one tenth of the toxin level seen in the high toxin varieties grown in areas where the disease is highly endemic.

(b) Liver disease due to cortalaria/Heliotropium species: In parts of Sarguja district of Madhya Pradesh, tribals were found to be affected by a liver disease, later identified as veno occlusive Disease (V.O.D.) Research during recent years has helped to identify

the actiological factor as hepatoxic alkaloids of pyrrogolidine type, in a weed of the leguminosae family, crotalaria neualund. The seeds of this weed contaminate the staple millet 'gonduli' (Panicum miliare) consumed by the tribals. Measures of control such as the eradication of the weed at farm level and seiving operation to eliminate the weed at home level, have been suggested and given effect to, through agricultural and health extension workers.

A similar liver disease has been reported from parts of Afghanistan in 1975-76. Research by scientists from Afghanistan and AIIMS (Delhi) has led to the identification of the causative agent as seeds of the weed Heliotropium Sccipes, contaminating wheat used for consumption.

c. Toxins arising from fungal contamination: Post-harvest measures as adequate drying and good storage conditions are still defective at the average farmer's level. These unsatisfactory conditions and unprecedented rains and floods also damage food crops. Such conditions lead to the increase in fungal contamination of several commodities as groundnuts, maize, rice, bajra, sorghum, fodder, etc. Aflatoxin contamination due to toxigenic strains of Aspergillus flavus has been reported in groundnut and maize. Aflatoxin contamination in maize in 1974 has been reported to be the cause of liver disease in tribals in western India.

6.15 Minimising post-harvest losses: Techniques are also becoming available for minimising losses during harvest and post-harvest operations. A major problem in the safe storage of grains is the high moisture content often found, particularly in Paddy. Studies carried out at the Paddy Processing Centre, Tiruvarur, on the effects of salt sprays both before and after harvests have shown that this techniques could help to bring down the moisture content to about 12 per cent rapidly. We need much more work on the standardisation of effective methods of preventing pre and post harvest losses in grains, fruits and vegetables under different ecological conditions. Bad storage not only results in a quantitative loss of all food material but more important is the deterioration in nutritive quality.

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CONCLUDING REMARKS:

6.16 The cause of hunger now is not a shortage of food. It is poverty. India's food problem tomorrow and for the next century will not be production problems. These will be problems of delivery, of getting food where people lack purchasing power. Only poor people go hungry. For the first time, we feel confident that we have the capability to relieve mankind from the scourages of hunger and malnutrition. However, the major answer has to come in the decision of Government as to the management of our resources, attrative economic and price incentives, and their support of mission oriented basic and applied research and the transfer of technologies relating to the enhancement of food production from the research laboratories to the farmers. Dr. Norman Borlaug, Nobel Laureate has reminded that well fed and over fed humans have no right to impose conditions which will preserve hunger and starvation for the majority. There is no time to relax in our efforts to eradicate malnutrition and poverty.

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PROBLEMS OF STORAGE OF FOODGRAINS AND PUBLIC DISTRIBUTION SYSTEM - A REVIEW

P.R. Vishwam Bharan

INTRODUCTION:

6.17 Green revolution has clicked in India. The food production which was only 51 million tonnes in 1950-51, has now crossed 133 million tonnes mark and this is a spectacular achievement for a country like ours. About 65 to 70 percent of food production is retained at the cultivator's level for various purposes and only 30-35 percent moves out as marketable surplus. Thus the major portion of production is required to be stored either for consumption or for marketing when a more favourable price rules in the market. It is, therefore, necessary that the stocks which remain in storage are saved from deterioration and other post harvest losses.

6.18 THE FACTORS THAT CAUSE FOOD LOSSES ARE:

a) Physical Factors: Excessive temperature, moisture content and the nature of storage structures are the physical factors. Food grains with high moisture content and at high temperature stored in unscientific storage structures, ill ventilated dark and dingy godowns contribute to big losses.

b) Biological Factors: These include insects, mites, rats, birds and microflora. Rats cause a great loss of food grains. One rat consumes about 24 grams of foodgrains per day. That means about 10 kgs. per year. An equal quantity

is contaminated by their excreta and hairs. Birds also consume and contaminate food grains at the field stage to every aspect of handling, micro-organisms like fungi and bacteria affect the grains and cause off-odour, discolouration, loss of nutritive value and palatability.

c) Chemical Factors: The excessive residual effect of the pesticide used and changes that take place in the grains are chemical factors which also contribute to huge losses of foodgrains. Similarly certain biochemical changes take place in the grains during storage on account of which the nutritive value is either lost or reduced.

d) Mechanical Factors: The losses also occur due to devective mechanical handling and processing. For example, if paddy is processed in a defective milling plant, loss due to excessive broken grains and fragments which ultimately mix with Bran and husk-bits will be considerable.

e) Social Factors: The social superstitious are the social factors. Many farmers in various States of the country are still superstitious. They consider that killing of rats is an offence to God, Ganesh. There are instance when the anti rodent compaigns have been resisted and defeated by such superstitious farmers.

f). Economic Factors: We have the know-how to preserve foodgrains scientifically. But every farmer may not be able to adopt these techniques for want of adequate funds with him. Unability of the farmer to adopt scientific methods of storage at the farm level, results in losses due to the economic factors.

MANAGEMENT OF STOCKS:

6.19 The godown space should be divided into convenient stack basis for storing different commodities separately. The largest should not, however, be more than 9mx6m as otherwise the stack becomes unwieldy for operational purposes including fumigation. Alleyways should be provided around every stack to facilitate inspection, physical varification and disinfestation operations.

6.20 Dunnage should be provided to arrest any seepage from the floor. Wooden crates made of timber of good strength and moderate durability will be an ideal dunnage.

6.21 The godowns should be cleaned thoroughly particularly the walls and roof to free them from cob-webs and hibernating insects and disinfested with DDVP 76 percent BC @ 3 literes/100M^3, after diluting it with water on 1:150 ratio. The godowns are now ready for storage followed by preparation of stack card to display the daily transactions, source of receipt, grade and weight of stocks, observations made at the time of inspection and technical treatments undertaken. A stack register is to be maintained.

6.22 In spite of the godowns being rat-proof, rodents may enter the premises through the trucks that bring stocks, through the branches of trees that may be growing near the structure or through the drainage pipes. Therefore, physical mechanical and chemical and chemical methods of rodent control have to be adopted.

a) Physical Method: Physical method includes prevention of infestation itself by ensuring that all the doors fit well with no gaps wider then 0.5 mm. that the window-openings are not less than 1 metre above ground level that the drain pipes are cut 1 metre above ground level, that branches of trees which spread to the roof are cut off and that no water is available in the premises without which rats cannot live.

b) Mechanical Method: The mechanical method is the age, old trapping and caging. Selection of baits, play an important role in attracting the rodents into the trap/cage.

c) Chemical Method: Once the godown is infested, it is the chemical method of control that is most effective. Baiting with an acute poison or chronic poison brings about massive killing of these pests. Acute poison is that which kills the rats immediately after ingestion like Zinc Phosphide. It is to be mixed with an attractive bait at 5 percent in case of dry bait and 2 percent in case of wet bait.

d). Biological Control Methods: Natural enemies of rats like dogs, cats, owls, hawks and snakes do play their part in rat control.

PUBLIC DISTRIBUTION SYSTEM:

6.23 Procurement of goods from the producers and distributing the same to the consumers is the basic function of public distribution system.

6.24 There are about 293400 Fair Price Shops in the country which cover a total population of 596.5 millions. While about 56,000 shops are in the urban areas, covering a population of about 150 millions, the remaining are inthe rural areas covering about 450 millions. In China, the ration shops are organised on the basis of families, and there is difference in the system of supply for rural and urban areas. In the rural areas, since the families and communes retain bulk of the grains, the supply is made on an annual basis at the rate of 100 to 200 kg. per family per year dependingupon the size of the family. This is augmented in the years and areas of crop failure, draught or floods. The system in urban areas is very liberal. The ration shops are organised on the basis of family ration cards and each shop caters to the need of about 2000 families. The scale of ration is on the basis of profession and age. A heavy worker gets upto 25 kg./month whereas a sedentary worker gets about 15 kg./month. Young students get a lesser quota on the basis of whether they are in University, High School or Middle School. The proportion of wheat and rice is fixed on the basis of area of residence depending on whether a person is inthe rice or wheat producing area.

Salient features of public Distribution System in China

6.25 The monthly ration can be drawn in any number of instalments in a given month and if some quantity remains undrawn, coupons can be purchased after payment for drawing such quantity subsequently.

a) The ration shops also keep quantities of better quality rice and any card holder can draw additional quantities at an enhanced price which is almost double the normal price.

b) The ration shops are attached to fixed depots and have the freedom to lift the stock allotted for the whole month in as many instalments as convenient, the normal system being 2 drawals in a week.

c) The ration shops have the facility for producing rice flour from rice. They can also provide additional polish to rice supplied to the consumers, if they so desire.

d) In some of the shops, automatic device of dispensing rice and wheat flour by using the coupons supplied by the shop have also been installed which avoids extra work for the shop.

e) The ration shops go into further diversification by selling a variety of other products, particularly biscuits and bakery products and are making profits with a view to reducing losses on the sale of rice and wheat products.

6.26 If China can do it, why not we? We can devise a fool-proof system by which the housewives get the quantity and quality of rationed articles, as they desire. The essence of productivity in public distribution system, therefore, lies in the modernization of the present system by improving the quality of stocks as well as service.

Revolutionization of Public Distribution System:

6.27 It is necessary that the entire public distribution system is revolutionized for the best interest of the consumers. The Chinese system is worth emulating with slight modifications required to suit Indian conditions. Elimination of wholesalers and retailers can be easily done, without any sacrifice in efficiency. As already explained earlier, the consumer's cost of wheat under the present public distribution system involves an addition of 30 percent to the producer's price, because of various journeys and handlings the grain undergoes before they reach the consumers. The procurement cost includes the marketing charges, commissions, taxes, cost of/junnies, labour, handling and transport charges, storage and transportation charges are variable depending on the mode of these operations. The margins allowed for wholesalers and retailers also fall on the consumers. The average procurement incidental is about Rs 175/- per M.T. for wheat and Rs. 88/- per M.T. for rice. The storage charges work out to about Rs. 50/- per M.T./per year. The wholesalers incidental is about Rs. 153/- per tonne whereas retailer's margin ranges from Rs. 20/- to Rs- 91/- per M.T. for rice and Rs. 10/- to Rs. 57/- for wheat. Thus, if the wholesalers and retailers are eliminated, the consumer's price can be reduced by atleast Rs. 200/- per M.T.

6.28 With the elimination of wholesalers and retailers, the ration shops are to be run by the F.C.I. or Civil Supplies Corporation or a Cooperative Society. In this connection, distribution of wheat, rice and sugar in the metropolitan cities may be considered to be undertaken

in the same fashion in which milk is being distributed in Delhi. Each ration shop should have three silos of 50 M.T.'s capacity. To this should be attached an electronic apparatus by which the flow of those commodities can be regulated by auto-weighing, commensurate with the tokens introduced in the system.

6.29 This triple-Silo ration shops with automatic device of filling and distribution can cater to the needs of a unit of 40,000 consumers.. Each consumer is eligible to get about 19 kg. of rice and wheat and 900 grams of sugar. Thus the total requirement of each unit will be 760 M.T.s of rice and wheat and 36 M.Ts. of sugar. While one bin can be filled with sugar for the entire month, the other two bins may have to be filled with rice and wheat twice a week depending upon the pace of off-take by the consumer.

6.30 The F.C.I./C.S.C./Cooperative organization which will run these mechanized ration shops should be allotted the ration requirement by the Govt. of India and those should be taken delivery of them from the nearby storage depot. The transportation of grains should be devised to be done in bulk so that the transport carrying the ration may be emptied at the bins, mechanically by conveyors. In the beginning, however, the transportation may continue to be done in bags and the grains be emptied in the dumping pits near the bins to be elevated by the conveyors. Only clean and dry grains will be filled into these bins which should be examined by quality control personnel, both at the storage department and the bins. A certificate of standard quality should be issued by the quality Control man who should be made responsible if any thing goes wrong with the quality.

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6.31 The intial cost of installation of each unit of 3 bins and distribution appratus is about Rs. 3 lakhs. But this is negligible when compared to the savings that will be made by eliminating the wholesalers and retailers and the losses that occur in their custody. If a unit delivers 832 M.Ts. per month for 40,000 people, the savings are not less than Rs. 1.5 lakhs and thus the cost of infra-structure will be recovered withina couple of months. The more important and of course the much needed advantage is that the consumers get wholesome, clean and dry grains and sugar as per their requirements. They have to simply pay the cost, get the tokens, insert them in the respective instruments and bag their wheat, rice and sugar without the fear of underweighment. The productivity in public distribution system will then be felt every where, irrespective of the category of consumers.

CONCLUSION

6.32 The consumers are attracted by quality as well as cheapness, when they make any purchase. They are not bothered how these two requirements are satisfied. It is for the salesman to attract the consumers with modern innovations and handsome incentives.

6.33 The entire system of public distribution needs wholesale revolution to translate the two aspirations of the consumers to reality. This can be accomplished in phases. To start with, about 10 mechanized ration shops may be pressed into service in Delhi on an experimental basis. If found successful and popular this new system of mechanical handling and delivery can be extended to more areas and more towns.

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6.34 It is also necessary that consumer's associations are formed in all wards to curb the malpractices in Fair Price Shops and to get the grievances redressed through continuous negotiations with all agencies concerned.

6.35 The off-take in Public Distribution System will positively increase, once the quality of stock distributed is assured and the salesmanship of the Fair Price Shop-keepers is of standard quality, whether it be in the mechanised ration shop or in the man operated ration shop, where normally there is complaint of low quality and under-weighment.

HEALTH AND NUTRITION SECTOR

1. Nutrition Programmes in relation to Mother and Child Health Care.

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2. Role of Nutrition Cell in the Directorate General of Health Services.

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3. Programmes under the Ministry of Social Welfare.

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4. Strategies for handling malnutrition - An Approach

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1. NUTRITION PROGRAMME IN RELATION TO MOTHER AND CHILD HEALTH CARE

By

Dr. Indra Bhargava

Nutrition is not synonymous with intake of food. The entire process consists of 4 stages, namely, intake, digestion, absorption and utilisation. Something may go wrong at any of these stages. It is noteworthy that nutritional requirements for different age groups are different. First three months are marked by a very rapid growth of the brain which requires a large proportion of carbohydrates and sugars. On the other hand, bones and muscles increase a lot at adolescence. Therefore the proteins are of primary need for this age group. It is suggested that these facts may be kept in mind while planning for nutrition intervention.

NUTRITION OF THE MOTHER:

6.37 Problems in this context can be lack of sufficient food, deficiency of a particular nutrient, limited access to basic resources and a heavy work-load by the mother. In a developing country the women begins life as an undernourished baby; grows up undernourished and arrives at maturity in undernourished condition, becomes pregnant in the same state and gives birth to an undernourished baby. Thus the problem is essentially undernutrition. In this context the real test of good maternal nutrition is the mothers' ability to produce a live child of sufficient weight and secrete sufficient milk to feed it. Besides undernutrition, deficiency in relation to total intake of iron, Vitamin 'A' and Iodine can also occur.

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6.38 Intervention for these deficiencies fall into two categories - long term and short term. The long term interventions are:-

General

a)
- Improving the status of women in society;
- Raising the age of marriage and the first pregnancy;
- Regulating child labour;
- Imparting general education to the public.

b) Improving the availability of food: This includes production, storage and distribution of food.

c) Appropriate technology to reduce workload for the mother. It will not only reduce the strain but will release time for the mother to look after the child and herself.

d) Improving basic health services.

6.39 Short term interventions are essentially meant to counteract deficiencies. These are:

a) Deficiencies of energy: which are counteracted by increasing the food intake, redistribution of food within the family, reducing the workload on the mother and identifying at risk cases and have specific interventions for them.

b) Deficiencies of specific nutrients:

(i) Prophylaxis against nutritional anaemia among mothers and children:

Anaemia is one of the major health problems

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affecting women of child bearing age and children in the country. Anaemia in pregnant mothers is an important cause of maternal mortality and morbidity. It also affects the infants adversely. In order to prevent Nutritional anaemia among mother and children, tablets of Iron and Folic Acid in suitable doses are given to expectant mothers and children (upto 12 years) . Mild to moderate cases of anaemia are the desired beneficiaries of this programme, where moderate anaemia is corrected. Cases of severe anaemia receive a regular treatment.

ii) Prophylaxis againstblindness due to Vitamin 'A' deficiency among children:

Nutritional status surveys, conducted amongst children of pre-school age, have shown a high degree of prevalence of Vitamin 'A' deficienct diseases. The most severe form of Vitamin 'A' deficiency, Keratomalacia, coupled with malnutrition and infection is believed to be an important cause of blindness among children. The traditional method for preventing Vitamin 'A' deficiency is to supply Fish Liver Oils and advocate eating of Vitamin 'A' rich foods, which is a long-drawn-out programme. The nutrition workers in the country have evolved a methodology for prevening Vitamin A deficiercy by giving oral doses to children (1-5 years) once every six months. Implementation of this scheme is stressed in the nutritionally backward areas like drought-prone and tribal areas.

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These two schemes were initiated during the Fourth Five Year Plan and being continued through successive five year plans with wider coverage every year. The beneficiaries covered under the above mentioned schemes during the Sixth Five Year Plan are mentioned below:

Programme (Figures in Lakhs)

	1960-61	1981-82	1982-83	1983-84	Total
Prophylaxis of nutrition -al anemia:					
a. Mothers	110.90	118.10	147.90	124.84	
b.Children	95.60	121.80	128.80	113.50	
Prophylaxis against blindness due to Vitamin A deficiency	166.40	173.50	142.80	119.72	

iii) National Goitre Control Programme

This programme was launched by the Govt. of India towards the end of the 2nd Five Year Plan. There are two main components of the programme: 1) Survey & resurvey of Goitre endemic areas and ii) production and supply of iodised salt to endemic areas. It is estimated that 140 million people are living in Goitre endemic areas in sub-Himalayan regions, Gujarat U.P, Maharashtra etc. Out of them about 40 million are estimated to be suffering. The central survey team at the centre conducted surveys under the National Goitre Control Programme. Re-surveys are undertaken to evaluate the effectiveness of the programme. Distribution of

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iodised salt in endemic areas is carried out through Salt Commission. The respective state government issue notification of banning of salt and iodised salt. Entire states of H.P., J & K, Nagaland, Arunachal Pradesh, Manipur, UT of Chandigarh and 9 districts of U.P., 2 districts of Bihar, 3 districts of Punjab, 1 district of Haryana, 4 districts of M.P., Sikkim 1 district each of Gujarat and Maharashtra, 5 districts of West Bengal are covered under this programme.

Twelve iodised salt plants have been set up under public sector undertaking with production capacity of 3.76 lakhs M. Ton (MT) per year. Two plants are producing 45,000 MT iodised salt under private sector.

NUTRITION OF INFANTS:

6.40 The direct measures for improving infant nutrition are early initiation, promotion and management of breast feeding which by far is the best prevention against malnutrition among infants.

6.41 In-direct measures are, prevention of infectious diseases and prevention and management of diarrhoea. For children, the direct measures are nutritional supplements to prevent malnutrition and promote optimum growth. Indirect measures include prevention of infectious diseases by immunisation and prevention and management of diarrhoea by ORS.

6.42 Infections are a common cause of malnutrition in children and can affect the growth adversely. In general it can lead to death of the weakest and weakening of the

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survivors. This calls for a concerted effort to prevent infectious diseases by immunisation. This should be supplemented by prevention and treatment of food related infections for control of diarrhoea. It is noteworthy that malnutrition degenerates the cells of the lining of the intestines leading to poor absorption, thereby further aggravating the vicious cycle.

7.43 The nutritional component of the mother and child health care programme can be reinforced considerably if the following questions can be answered by the galaxy of experts drawn from diverse fields and coming from top level organisations in the country:

a. How to assess nutritional status? What are the indicators?
b. What are the nutritional requirements during pregnancy?
c. How to evaluate effects of nutritional supplements in pregnancy?
d. Can mother's diet be improved without improving diet of the rest of the family?
e. How frequently to feed in order to prevent under-nutrition?
f. What is the role of placenta in foetal nutrition and how can interventions be of help?
g. What is the effect of maternal nutritional supplements on the foetus.
h. What are the indicators for lactational insufficiency?
i. How good are our activities. Have they produced an impact?

7.44 To conclude, I shall like to suggest a wholesome

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view and perspective of family welfare activities in relation to mothers and children with appropriate spacing of pregnancies, small family size, care of the mother and children , immunization and nutri tional supplements. This should be supplemented by appropriate environment, proper love and affection to the growing child in order to ensure maximum physical and mental development of the children of the nation.

2. ROLE OF NUTRITION CELL IN THE DIRECTORATE GENERAL OF HEALTH SERVICES

Recognizing that malnutrition is a glaring public health problem, the Nutrition Cell was set up in the Directorate General of Health Services in the late sixties to coordinate the nutrition activities of the different departments of the Governments of India and States and act in an advisory capacity for effective implementation of Nutrition Programmes in the country.

6.46 The Nutrition Cell did pioneering work and demarcated areas of nutritional deficiency. The first very supplementary feeding programmes was known as the Skimmed Milk feeding programme and was implemented through health agencies. In order to fulfil this new responsibility, an important achievement of the Nutrition Cell was the creation of State Nutrition Divisions in the Health Directorate of 17 States and 2 Union Territories. These divisions were responsible for:

a. Defining the areas of nutritional backwardness in their own State and Union Territories.
b. Assess the incidence of nutritional deficiencies in various groups of population.
c. Conduct nutrition education campaigns.
d. Supervise supplementary feeding programmes and other ameliorative measures.
e. Conduct baseline surveys and evaluation of the health aspects of the Applied Nutrition Programme. The

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work done by these divisions was published as an Annual Report of Nutrition work done in the State and UTs first by the ICMR and later by the Nutrition Cell of the DGHS.

6.47 As the importance and need for tackling mal-nutrition was more widely recognised, the Ministry of Health constituted a National Nutrition Advisory Committee in 1969 with the Nutrition Cell in the DGHS acting as the secretariat and Health Minister as Chairman. The main aims of the Committee were to review the nutrition situation in the country and suggest suitable measures. It also acted as the nodal point for the planning and monitoring of all nutrition programmes. This committee did a very commendable job and brought out a number of publications in various fields/aspect of Nutrition.

6.48 In the Vth Plan, Nutrition became one of the action programme to be implemented. A number of Nutrition programmes were initiated at this stage. These included the 1) Special Nutrition Programme; 2) Prophaylaxis against Vitamin A deficiency and 3) Prophaylaxis against Nutritional Anemia. The last two programmes were concieved, formulated and designed by the Nutrition Cell and it was decided to implement them through the MCH division of the Department of Family Welfare.

6.49 Technical supervision, guidance and coordination of the work of the State Nutrition Divisions. At present 20 States and 2 Union Territories have fully fledged

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Nutrition division in the health directorates. These divisions are responsible for:

a. Defining areas of nutritional deficiencies by conducting diet and nutrition surveys.

b. Implementation and supervision of Nutrition Programmes implemented by the State or any other agency.

c. To direct and supervise the Health aspects of the Nutrition Programmes at the State District and Block.

- Tabulation, compilation and publication of the Annual report on the basis of data received from the State Nutrition Divisions. An Annual report of 'Nutrition work done in the States and Union Territories is published'. The report gives results of diet and nutrition surveys conducted in States and is utilised by various organisations and Government departments implementing Nutrition programmes.

- Technical guidance and coordination of the Applied Nutrition programme with particular reference to the Health aspects. Actively involved in the formulation and implementation of training programmes for various types of personnel both medical and non-medical under the Applied Nutrition Programme.

- Promotion of Nutrition education in the country through the States Nutrition Division by evolving various types of Nutrition education aids like posters, folders, pamphlets etc. on nutrition.

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- Technical guidance for the implementation of the National Programme of Vitamin A deficiency and Nutritional Anemia which is implemented by the sister department of family welfare.

- Implementation of Nutrition Programme (Plan) under the Nutrition Cell D.G.H.S.

- Liason and technical advise is given to the various ministries and Govt. departments and international agencies like FAO, UNICEF, WHO etc.

- Monitoring the Nutritional status of population affected by natural calamities such as flood, drought, cyclones etc. through the State Nutrition Divisions.

- Coordination of Nutrition activities with those carried out by the Departments of Agriculture, Education, Social Welfare and Community Development.

- Formulation, standardization and technical guidance in improving existing diets in Govt. Hospitals, various institutions and organisations like jails, orphanges etc.

6.50 Nutrition at this stage was recognised as a major public health problem unlike in many affluent countries. Disease directly attributed to under nutrition accounted for 15-20% of all hospital admissions. The widespread background of malnutrition served to aggravate the course of many non-nutritional disease, including communicable diseases. The Health Ministry therefore had obviously to give the highest priority to Nutrition. Though a number of Government departments

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are today implementing feeding programmes, but there are certain aspects of nutrition programmes which can be discharged by the Health agencies alone and this additional responsibility was taken up by the nutrition cell. These aspects are as follows:

a. It is health agencies that can identify the population groups at risk in different regions in the country. Monitor the changing dietary trends in different population segments in different regions of the country. It is such information alone which can provide a scientific foundation for our feeding programmes and other nutrition intervention programmes. Launching of expensive feeding programmes in the absence of this information will prove wasteful.

b. It is the health agency alone that can decide the nature and nutritional inputs needed by different population groups.

c. The Health Ministry also has an important role in monitoring and evaluation of these programmes in order to ensure that minimum sanitary standards are maintained in feeding operations.

d. That infections and infestations which can prevent the utilisation of nutrients and thus completely nullify the benefits of nutrition, are eradicated and controlled periodically during the programme.

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3. PROGRAMMES UNDER THE MINISTRY OF SOCIAL WELFARE

Shri R.K. Saha

Direct intervention programmes are designed to benefit pre-school children in areas where malnutrition is most acute and where malnutrition causes the greatest harm. The most important of these programmes in the Social Welfare sector are the Integrated Child Development Services (ICDS), Special Nutrition Programme and the Balwadi Nutrition Programme. These are programmes of nutritional supplementation to the pre-school children and nursing and expectant mothers. A brief review of these programmes is given below:

BALWADI NUTRITION PROGRAMME

6.51 The Balwadi Nutrition Programme is in operation since 1970-71, and covers pre-school children of the age groups 3-5 years located in balwadis and day care centres. It is being operated through five national level organisations: Central Social Welfare Board, Indian Council for Child Welfare, Harijan Sevak Sangh, Bharatiya Adimjati Sevak Sangh, and Kasturba Gandhi National Memorial Trust. These organisations extend assistance to local voluntary organisations through their State Units for the implementation of the programme. The grant-in-aid for the programme is utilised towards honorarium to Balsevikas/helpers, and supplementary food for children. About 7,000 balwadis are being run by the five voluntary organisations to implement this programme.

6.52 The programme covers about 2.29 lakh children in the age groups of 3-5 years. Now, it is a non-expanding non-plan programme. Supplementary nutrition, consisting of about 300 calories and 10 grams of protein per child per day is provided for 270 days in a year. Apart from nutritional supplementation, the balwadis look after the overall development of children attending these balwadis.

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SPECIAL NUTRITION PROGRAME

6.53 The Special Nutrition Programme was started much earlier than the ICDS programme in 1970.71. It now covers about 8 million beneficiaries. The Special Nutrition Programmes is being upgraded with the addition of health inputs in several States. The States where upgradation of SNP is taking place are Gujarat, Orissa and Rajasthan.

6.54 World Food Programme and CARE is making available food inputs for Supplementary Nutrition Programme. WFP programme is, in its Expansion IV, benefiting 19,08,000 children in the 12 States of Assam, Bihar, Gujarat, Haryana, Jammu and Kashmir, Kerala, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Uttar Pradesh and West Bengal. CARE food assistance is now benefiting 54.62 lakh children and nursing and expectant mothers in the States of Andhra Pradesh, Bihar, Gujarat, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Pondicherry, UTTAR PRADESH and West Bengal.

6.55 There were a number of evaluation studies of the Special Nutrition Programme. The findings of these studies are encouraging. The findings of some of these studies may be mentioned.

The findings of the studies are:-

a. Prevalance of Kwashiorkor was found to be significantly low among the beneficiaries but no significant differences were observed in the other common nutritional deficiency signs.

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b. Nutional status of beneficiaries was found to be significantly better than the non-beneficiaries.

c. Children in the present study were having lower prevalance rates of nutritional deficiency signs and better body weight status as compared to similar group studied by NNMB and who have not had the benefit of any feeding programme.

d. Children who had the benefit of the programme for longer period (i.e. more than 18 months) were found to have better body weight status than those enrolled recently (i.e. less than 18 months).

e. Wide variations in the extent of malnutrition particularly of severe type (grade III) have been observed between the State and within each State. Significant improvement in the health status of the beneficiaries was seen in the States of Kerala, Orissa, Rajasthan and Uttar Pradesh, when considered individually and also when all the seven States were considered together. Even by arm circumference measurements the results revealed the same trends although the magnitude of changes in nutritional status differed.

6.56 However, these studies also brought out the weakness of a nutrition programmes that is not assisted by health measures. Hence, was evolved the ICDS programme that seeks a convergence of a number of services on targetted children to maximise the impact on them.

THE INTEGRATED CHILD DEVELOPMENT SERVICES (I.C.D.S.)

6.57 The ICDS programme aims at providing the services of supplementary nutrition, immunization, health check-up, and referral services to children below six years of age and expectant and nursing mothers, non-formal pre-school education

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to children, and nutrition and health education to women. To repeat, this is the single largest programme of a comprehensive character that benefit people belonging to the disadvantaged groups.

6.58 The programme was taken up on an experimental basis in 33 ICDS projects areas during 1975-76. It is being expanded to 1000 project areas by the end of the Sixth Plan. The programme may go up to cover 3000 projects by the Seventh Five Year Plan when almost half of the country's children would be covered under the programme.

6.59 Besides immunization to young children and pregnant mothers, these projects will provide supplementary nutrition, with the full 1000 projects in operation, to about 60 lakh beneficiaries and pre-school education to about 30 lakh children. Some States have taken up additional projects in the State Sector.

6.60 ICDS is the single most important programme to improve the nutritional status of the disadvantaged children in the country. The objectives of the programme are comprehensive and also ambitious. The objectives are:-

a. to improve the nutritional and health status of children in the age-groups of 0-6;

b. to lay the foundations for proper psychological, physical and social development of child;

c. to reduce the incidence of mortality, morbidity, malnutrition and school drop-out;

d. to achieve effective coordination of policy and implementation amongst the various departments to promote child development; and

e. to enhance the capability of the mother through proper nutrition and health education for looking after the normal health and nutritional needs of the child.

6.61 Report of 672 projects were received for the period upto December 1983. In these projects 46,034 Anganwadis were providing supplementary nutrition to 31.10 lakhs children and 7.35 lakh expectant and nursing mothers. About 45,962 Anganwadis were providing pre-school education to 17.16 lakh children. About 4.42 lakh women were attending 26,706 functional literacy classes.

6.62 The All India Institute of Medical Sciences, New Delhi and, through it, the Medical Colleges of the country have been associated in the programme for the survey of health and nutrition status of children and mothers and orientation of medical and para-medical staff in ICDS. Baseline and repeat surveys conducted by the AIIMS and Medical Colleges have shown that there has been considerable improvement in the utilisation of supplementary nutrition, Vitamin 'A', Iron and Folic acid and immunization among preschool children. This has led to improvement in their health and nutritional status. Even pre-school children below 3 years of age group showed marked improvement in coverage by all these services.

6.63 The impact of the ICDS programme has been monitored closely. It has been found that the ICDS programme has improved the coverage of immunization of children in the project areas. It has also reduced school drop-outs. Infant Mortality Rates have appreciately gone down in ICDS project areas. In fact, IMR for the country as a whole has gone down from 127 in 1978 to 114 in 1980 and has further gone down since then. To a large extent, this is due to ICDS and other related programmes of nutrition for pre-school children.

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6.64 The programmes of nutrition for children and expectant and nursing mothers got immense boost from the Prime Minister's New 20-Point Programme. Point 15 of the Prime Minister's New 20-Point Programme covers the ICDS programme. The ICDS programme will, in course of the Seventh Plan, cover 3000 projects in the country. Half the pre-school children in the country, in the event of the full coverage of 3000 projects, will then be covered by ICDS.

6.65 It has been conclusively proved that a nutrition programme coupled with health inputs etc. has a much greater effect on the nutritional status of the children than a mere nutrition programme would have had if uncoupled with related health inputs. Also, it is essential to involve community at large in the programme so that the programme really goes out to the needy children who need the programme most. The future plan of operation for the nutrition programmes would, therefore, be to penetrate deeper into the community to reach the most deserving children. The programme vehicle will be mostly ICDS that enables a convergence of services in several sectors on the target group of children. ICDS programme, in its essence, embodies the country's directive of the National Policy for Children.

6.66 The shape of future ICDS programme will also change. Drinking water supply, goitre control measures and sanitation activities will be targetted in a much larger measure in the ICDS areas. The idea is to seek highest convergence of the related required services and obtain the utmost synergesitic effect.

6.67 In the implementation of the ICDS programme, community cooperation will figure more prominently. Women's organisations will play due role. Health infrastructure will be strengthened and integrated with the administrative

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infrastructure of the ICDS. The ICDS programme of the future will be a major factor to prevent disabilities in in children and reduce its incidence. Already, the ICDS programme has smoothed the acceptance of family planning methods by village women. In future, ICDS will be a major plank in the measures for population education. This programme will also play its due role to universalize elementary education in the country.

6.68 The future programming, in short will be in the direction of ICDS and the future ICDS will also be a potent factor to promote child well-being and development. This in turn will promote human resource development in the country.

6.69 In the future, the ICDS programme will be a factor to promote other programmes that tend to the well-being of the children. These programmes are promotion of breast-feeding family planning, universalization of elementary education.

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4. STRATEGIES FOR HANDLING MALNUTRITION -AN APPRAISAL

- B.N. Tandon

The objectives of the Integrated Child Development Services include:

1. improving the nutritional and health status of children in the age group 0-6 years.

2. reducing the incidence of mortality, morbidity, malnutrition and school drop-out and enhancing the capability of the mother to look after the normal health and nutritional needs of the child through proper nutrition and health education.

6.71 The baseline surveys of newer ICDS projects done at different times have indicated high prevalence of protein energy malnutrition as shown in Table-1

Table-1 Prevalence of Malnutrition at the start of ICDS services

Baseline survey in the year	% Children malnourished		
	Moderate degree	Severe degree	Total
1976	27.0	19.1	46.1
1979	28.2	15.1	43.3
1982-83	17.9	9.5	27.4

6.72 It is obvious from the above table that public health and nutritional problems especially protein energy malnutrition required certain specific programmes especially early in our planning process.

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6.73 In addition to protein calorie malnutrition there is associated high prevalence of blinding malnutrition due to Vitamin A deficiency, nutritional enaemia etc., which have not been critically assessed. Available data suggest that these types of nutritional problems are also highly rampant. The strategies adopted under ICDS to combat these types of malnutrition are mainly:

a. On the spot supplementary feeding of pre-school children with 300 KCal. and 8-12 g. of protein food prepared according to the local tastes.

b. Administration mega doses of vitamin A supplements to the preschool children every 6 months.

c. Distribution of folic acid tablets daily.

d. Prevention of communicable diseases which are capable of aggravating the problem of malnutrition by regular immunisation.

e. Detection of at risk children and appropriate management.

f. Provision of supplementary nutrition, iron and folic acid supplements to pregnant and lactating women besides giving Tetanus immunisation to prevent neonatal tetanus.

6.74 These services are provided at a village centre by a local village girl who is an honorary worker receiving good supportive supervision. Special efforts are made to treat diarrhoea by domiciliary management by the mothers by educating them on oral rehydration therapy.

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6.75 The limited experience of this approach has shown constant improvement in the nutritional grades of children as shown in Table-II.

Table II: Nutritional Status of preschool children(% prevalence)

Nutritional Grade	1976	1979	1982
Moderately malnourished	27.0	26.2	20.3
Severely malnourished	10.1	10.8	6.6

6.76 The management of severely malnourished children by this approach has produced rewarding results by considerable decrease in the mortality as shown in Table-III.

Table III: Prognosis of severely malnourished children

Types of ICDS Block	% improved	% no change	% deteriorated	% dropout	% Died
Rural	83.4	5.5	4.2	2.0	4.9
Tribal	82.9	9.5	3.7	3.0	0.9
Urban	91.3	4.7	2.2	1.2	0.6
All	85.0	6.3	3.6	2.1	3.0

The shortcomings in the present approach which need our attention are:

a. Nutrition and Health Education
b. Coverage of children below 3 years of age

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c. Oral Re-hydration Therapy.

d. Measles immunisation in the package.

e. Combating the parasitic infestations especially hookworm infestation in children and also mothers.

f. Supply of supplementary nutrition.

SUGGESTED REMEDIES

6.77 a. Organised efforts in the form of Mahila Mandals and Well baby clinics which can give adequate focus on nutrition and health education to mothers.

b. Ensuring improved coverage of children below 3 years through the well baby clinics which may be run atleast twice a week.

c. Continuing education of health functionaries and the field level workers to increase the acceptability of home made remedies such as Oral Rehydration Therapy for diarrhoeal episodes.

d. Addition of measles vaccine in the package with only marginal increase in the cost as the infrastructure in ICDS is capable of handling the extra load.

e. Improvement of environmental sanitation and personal hygiene by various means including health education besides treatment of individuals with parasttic infestations.

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f. Improved management of the food system for supplementary nutrition. Organised efforts are needed to develop a structure which will sustain on low cost, locally available and acceptable technology with adequate community participation.

VII

EVALUATION OF SUPPLEMENTARY FEEDING PROGRAMMES

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EVALUATION OF THE SUPPLEMENTARY FEEDING PROGRAMMES

Dr. A.K.IYengar

INTRODUCTION

Supplementary feeding programmes for pre-school and school children were introduced in the plans to bridge the calorie gap among the undernourished and as a measure to combat the problem of malnutrition. Various programmes are in operation currently but the two major ones include the Special Nutrition Programmes and the Mid-day Meals Programme. The others include the noon meal schemes in Tamil Nadu and Andhra Pradesh and the Balwadi nutrition programme. Supplementary nutrition is also in operation in integrated nutrition projects with assistance from USAID, DANIDA, ODA/UK, World Bank or through the Catholic Relief Services but the nutrition component perse in these is very small.

The Special Nutrition Programme

7.2 In the budget for 1970-71 in the Parliament, a provision of Rs.4.0 crores for providing supplementary food to the children in the age group 0-3 years was made as a crash programme. The Union Department of Social Welfare in 1970-71 launched this feeding programme with 100 per cent central assistance. The State Governments and Union Territories implemented this programme in tribal and backward areas and urban slums. In the year 1971-72, the programme was expanded to cover children in the age group 0-6 years, pregnant and lactating mothers.

7.3 The programme which was started as a central scheme in the fourth plan was shifted to the State Sector in the fifth plan and continues therein as a part of the minimum needs programme.

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7.4 The supplementary food provides 300 calories with 10-12 grams of protein per day and 500 calories and 25 grams of protein per mother per day for 300 feeding days in a year. The current costs for feeding are Rs.75/- per child/year and Rs.150 per mother/year. Costs for food, transportation and administration involve an additional Rs.30/- per beneficiary per year.

7.5 By the end of the fourth plan (1973-74) a total number of 3.7 million beneficiaries were covered. The figure rose to 5.7 million by the end of the fifth plan (1974-78) and is anticipated to cover 11.7 million beneficiaries by the end of the Sixth Plan.

7.6 The Special Nutrition Programme is in operation in all the States and Union Territories, both inside and outside the Integrated Child Development Services Projects (ICDS). By the end of the Sixth Plan 1984-85, the Central ICDS projects would be in operation in 1003 blocks out of a total of 5092 blocks. The details of coverage are presented in Table-I.

7.7 Food commodities used in the feeding programme include local/indigenous and those supplied through CARE and WFP. The Union Ministry of Social Welfare is the nodal Ministry for impelemting this scheme through the State Social Welfare Departments.

7.8 MID-DAY MEAL PROGRAMME

The Mid-day Meal Programme for the school children 6-11 years was introduced as a Centrally sponsored scheme in 1962-63 on the recommendation of the School Health Committee appointed by the Government of India in 1960. The objective were:

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a) to improve the nutritional status of school children and

b) to attract children to enrol themselves into school and to encourage regular attendance.

Table - I

Coverage of beneficiaries in the two supplementary feeding programmes. (figures are in million)

Year	Special Nutrition Programme		Mid-day meals Programme
	Total coverage	of which ICDS	Total coverage
1973-74 (terminal year of fourth plan)	3.7	-	12.0
1977-78 (terminal year of fifth plan)	5.7	-	13.5
1978-79	6.71	0.27	15.10
1979-80	6.91	0.59	17.40
1980-81	7.98	0.87	17.40
1981-82	8.00	1.00	17.20
1982-83	8.00	2.20	18.00
1983-84 (anticipated)	10.64	4.40	18.83
1984-84 (targets)	11.70	6.50	-

Table -II

Outlays and expenditure for supplementary feeding programmes in the State Sector.

Rs. crores

Plan	Outlays	Expenditure
Fourth Plan 1969-74)	7.10	N.A.
Fifth Plan 1974-79)	88.18	68.87
Sixth Plan (1980-85)	223.19	386.74(anticipated

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7.9 During the third plan, the Central assistance was 33% of the actual expenditure which was later raised to 40%. In the fourth plan the scheme was transferred to the State Sector and continues therein as a part of the minimum needs programme.

7.10 The programme provides supplementary food of 300 calories and 10-12 grams protein per child for 200 days in a year. The current costs for feeding are Rs.50 per child/year, and costs for food transportation and administration involve an additional Rs.20 per beneficiary/year. Local food and CARE food commodities are the supplements provided. The programme is in operation in all the States and Union Territories either under plan or non-plan except in Assam, Manipur, Andaman and Nicobar Islands and Lakshadweep.

7.11 The coverage increased from 4.2 million in 5 States in 1982-83 to 13.5 million in 14 States in 1973-74. The coverage by March 1984 is around 18.83 million beneficiaries. The detail of coverage are presented in Table-I.

7.12 The Union Ministry of Education is the nodal Ministry for implementing this scheme through the State Education Departments.

THE NOON MEAL SCHEMES IN ANDHRA PRADESH AND TAMIL NADU

7.13 The Government of Andhra Pradesh initiated a scheme on 14th November, 1982 to provide a full meal to all children of the age group 6-11 years in the recognised schools of the State. The scheme benefitted 6.2 million beneficiaries in 1982-83 at a cost of Rs.29.23 crores. Subsequently due to the revision of eligibility criteria, the scheme now covers around 4 million beneficiaries at a cost of Rs.40 crores.

7.14 The Collector, Zilla Parishad officials and other heads of developmental departments are involved in the

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close supervision of the programme. The Civil Supplies Commissioner is responsible for the supply of coarse/fine rice, oils and pulses through recognised otulets like fair price shops, taluk centres etc. The schools draw rations from the fair price shops through bulk ration cards.

7.15 The Government of Tamil Nadu has started a scheme from 1st July, 1982 of providing one noon meal for poor children in the age group 2 to 10 years. The anticipated expenditure for covering 5.6 million beneficiaries under this programme was Rs.112 crores during 1982-83 and Rs.121 crores during 1983-84.

7.16 Medical inspection of children availing the scheme is being provided by the PHC doctors with special attention for preventive health care and nutritional deficiency signs. Potable water supply is being provided under the programme of 'Water supply'.

BALWADI NUTRITION PROGRAMME

7.17 The Balwadi nutrition programme is being implemented since 1970-71 through five national level organizations viz. the Central Social Welfare Board, Indian Council for Child Welfare, Harijan Sevak Sangh, Bharatiya Adimjati Sevak Sangh and the Kasturba Gandhi National Memorial Trust. These organisations extend assistance to local voluntary organisations through their State Units for implementation of the programme. The programme is a non-expending non-plan programme of the Union Ministry of Social Welfare. About 7000 balwadis are being run covering 2.26 lakh children in the age group 3 to 5 years.

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INVESTMENT IN THE SUPPLEMENTARY FEEDING PROGRAMMES

7.18 The investment in the supplementary feeding programmes is presented in Table II, As seen from the table the investment in the State Sector for the two major feeding programmes viz. Special Nutrition Programme and the Mid-day Meal Programme has risen from Rs.710 crores in the fourth plan to Rs.223.19 crores in the Sixth Plan. Against the outlay of Rs.223 crores for the Sixth plan, the anticipated expenditure is of the order of Rs.386.74 crores.

EVALUATION OF THE SUPPLEMENTARY FEEDING PROGRAMMES

7.19 Several evaluation studies have been conducted on the supplementary feeding programmes.

The National Institute of Public Cooperation and Child Development (1) conducted a study on the Special Nutrition Programme in Delhi in 1973-74 with its main focus on the delivery of benefits and their utilisation. The findings of the study indicated that the selection of areas were not done properly as a result two to three centres were clustered in one area leaving other areas untouched. The beneficiaries were found taking food in more than one centre at a time. The selection of the beneficiaries was not done properly after ascertaining the socio-economic conditions of the family. Food was found unhygienically distributed with no efforts to feed the beneficiaries at the centre and as a result the food was being consumed by non-beneficiary members of the families. Supervision and monitoring was poor and health and nutrition education component was totally absent. Moreover functionaries in the programme were nominated, transferred and changed by leaders of local political parties.

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7.20 After a lapse of four years the Institute(2) undertook a repeat survey of the feeding programme in Delhi. On the basis and analysis of data collected it was observed that though the programme expanded significantly catering to the lower socio-economic strata of the society, a large number of needy children and mothers who fulfilled the eligibility criteria were still deprived of the benefit mainly because of limited resources. The distribution of centres was not homogeneous nor based on any definite criteria thereby resulting in clustering of centres in one area with nearby ones having none. At some places two or three centres were being run by one functionary. It was also observed that the benefit of supplementary feeding kept on going to the same family till all the children in the family completed si years of age while several deserving non-beneficiaries remained deprived of the benefit. Food was unhygenically distributed and shared by members of the beneficiary family. The programme was commonly perceived as of a great financial help to the poor although some dissatisfaction was expressed in respect to the amount of food allocated per child. Irregularities and malpractices were also reported and these related to selection of beneficiaries, discourteous behaviour of functionaries, misappropriation of food, political interference, poor supervision, maintenance of records and monitoring. Health and nutrition education was totally absent.

7.21 The World Food Programme assisted Special Nutrition Programme was evaluated in nine States recently in 1981 and 1982 by the National Institute of Nutrition, Hyderabad(3). World Food Programme commodities cater to around 2 million beneficiaries approximately one-fifth of the total number presently covered under the Special Nutrition Programme.

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7.22 The study indicated that the system of handling food commodities for the programme at the State and district levels appeared to be satisfactory, but not at the peripheral level. Lack of transport facilities and administrative delays affected the system. The irregular functioning of the feeding centres was attributed to the lack of food stocks at the godown nearest to the feeding centre. Availability of space, inadequate physical facilities for storage, cooking and distribution have been observed to be the major constraints affecting the functioning of the feeding centres. These factors led to consumption of food at home and sharing of supplements with other members in the family. Linkages with health care were not satisfactory and health and nutrition education seemed to be absent. Proper supervision and monitoring was also absent.

7.23 The Programme Evaluation Organisation of the Planning Commission conducted an Evaluation Study of Integrated Child Development Services Projects initiated during 1975-76. A base line survey and a repeat survey of the projects were carried out in 1976-77 and 1977-78 respectively (4,5) to assess the impact of the scheme. The study revealed that for the component of supplementary nutrition in the projects, awareness of the component among the repondent rose from 75% at the time of the base-line survey to 99% at the time of the repeat survey. The implementation of the projects had resulted in increasing the awareness and usefulness of supplementary nutrition. However, at the time of the repeat survey. 46% of children, 70% of pregnant women and 63% of lactating mothers who were among the eligible target population, remained to be covered. The study significantly revealed that the children belonging to poor families and socially disadvantage groups. benefitted more than those of the properous households.

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7.24 The impact of the Special Nutrition Programme in the ICDS was also assessed recently in 1983 by Krishnamurthy and Nadkarni for the UNICEF(6). In all 16 projects initiated during 1978-79 and 1979-80 in nine States and one Union Territory were selected, the rationale being that these projects had a reasonable amount of time to establish the programme. Out of 11,443 children surveyed 502 or 4.5% were identified as severely malnourished. Of these 258 were girls and 244 were boys an unexpectedly even balance. In 64% of the centres food was available for the prescribed 300 days in a year while in the remaining it was provided for only 150 to 250 days. Contribution by beneficiary families to the feeding programme was relatively poor. Of those interviewed only 10% had made some contribution to the programme. Most of the respondents were aware of the component in the ICDS but responses to questions regarding supplementary nutrition indicated that it is widely known to help growth but the connection between malnutrition and disease was not fully understood. Health and nutrition education was totally absent in the project areas surveyed.

7.25 Thirty percent of the respondents stated that their children had fallen ill during the last fifteen days at the time of survey. The incidence of illness was higher in rural areas with an average duration of 3-5 days of fever, respiratory ailments and diarrhoea. A majority (91%) reported illness among their children during the last year at the time of survey. Fevers and diarrhoeal episodes occured most frequently, the incidence being high in rural areas.

7.26 No systematic evaluation of the mid-day meal (MDM) programme has been undertaken so far. The Directorate of Education, Govt. of Gujarat conducted an evaluation in 1966-67 to examine the programme. The reports indicated that only

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72% of the target beneficiaries were reached. The reasons for the inadequate coverage were mainly non-acceptability of the meal served and discontinuous supplies. The findings also indicated that the local people showed no interest in the programme. Twenty nine percent of the parents reported regarding their children not participating in the programme because of the off-flavour of soyabean oil and non-palatability of the meals prepared.

7.27 The Karnataka Study (7) on the role of MDM in increasing the enrolment and retention in schools revealed that schools which did not participate in the programme had higher rates of enrolment than the schools which participated. The attendance in primary schools was only 71% in MDM and 68% in non-MDM schools. The data does not provide any information about the social and economic background of the students.

7.28 The study of the Mid-day meal programme in Madhya Pradesh(8) revealed improvement in the nutritional status of those children who attended and participated in the high programme efficiency schools. Continuous provision of supplementary food improved the nutritional status of children significantly. Average height and weight of children showed significant improvement. However, the schools with high feeding programme efficiency recorded lower enrolment and attendance than the low and medium programme efficiency schools.

7.29 A study conducted in the city of Hyderabad(9) comparing a random sample of fed and non-fed schools essentially found no different in nutritional intake, height and weight among children. The results showed that one-third of the children did not eat at home when they participated in the school lunch programme and were thereby possibly passing that meal to the family. Attendance was higher and drop out was low in fed schools.

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7.30 A survey of fed and non-fed schools in Orissa showed that fed schools attracted high level of enrolment in general but substantially higher levels of enrolment in Class I in tribal areas. This was due to selection of more backward areas for the feeding schmes. Absence decreased where the programme was for more than 150 days in a year. However, the drop out rate in fed schools was higher. The results did not show any difference ir academic performance. The survey also pointed out that food was being cooked at open places in most schools, often under heath a tree and only few feeding centres were provided with a part time cook.

7.31 Another study undertaken in Orissa(10) to evaluate the impact of school lunch programme on children attending 495 primary schools (330 fed and 165 non-fed) indicated that the drop out percentages of the fed schools was higher than non-fed schools. In total, the drop out was 19% in non-fed schools and 24% in fed schools. It was indicated that at least from the point of view of drop outs, the feeding programme was not continuous throughout the year, enrollers gradually lost interest and left the schools in the course of the year.

7.32 A survey conducted in 150 schools (100 programme + 50 control) in 50 blocks of Andhra Pradesh (11) indicated that the transportation of commodities from the block to the schools was one of the programmes weakest links. Single-teacher schools and those inaccessible to the bloc head-quarters had long feeding interruptions and many schools were not equipped with the cooking equipment.

7.33 CARE undertook an evaluation of the mid-day meal programme in 10 States and found that non-availability of food stocks, lack of funds, utensils, condiments and community support were major constraints for implementation of this programme.

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CONCLUSION

7.34 Various evaluation studies enumerated above throw light on the performance of the two major feeding programmes for pre-school and school children.

LINKAGES WITH HEALTH AND NUTRITION EDUCATION

7.35 In both the feeding programmes there is a need to strengthen the health inputs. In the special nutrition programme whether inside or outside ICDS, health coverage has been a weak link. In the ICDS in particular, although the health coverage and immunisation have improved since the inception of the scheme, there is a high drop out rate in the subsequent doses of vaccinations to be provided as generally the vaccines are not available or the visits of the para-medical and medical staff are irregular.

7.36 In the case of the mid-day meal programme too, there has been no linkages with the school health programme. The Tamil Nadu Government have provided for health cover in the noon meal programme but the impact of these services on the nutritional status of the children may have to be determined. Members of families should be involved in the nutrition programmes to give them a better understanding of the objectives of nutrition. Infrastructural facilities available either through extension units, TV net-work and other mass media should be fully capitalised.

EXPANSION OF THE FEEDING PROGRAMMES

7.37 The Special Nutrition Programme for preschool children and the mid-day meal programme for school children currently cater to around one sixth and one fifth of the eligible target population respectively. Despite an increase in the outlays per so far the feeding programmes from about Rs.7 crores in the

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fourth plan to about Rs.223 crores in the Sixth Plan the actual investment has been around 0.2% of the respective total plan outlays. If the trend continuous in the subsequent plans, and with the increasing cost of food commodities it may be difficult to envisage a large scale expansion of coverage of beneficiaries under the feeding programmes to bridge the gap. Moreover with the progress in the plans, there is an increasing commitment on the part of the States to maintain beneficiaries under the non-plan, which in turn would depend on the internal resources of the State, if for some reason nutrition is accorded a low priority by the State Governments due to resource constraints and other priorities, the feeding programmes would tend to collapse.

SUPPLEMENTARY FEEDING TO COMBAT MALNUTRITION AMONG PRESCHOOLERS

7.38 Expansion of supplementary feeding where other essential services are not provided should not be envisaged. Concerted efforts must be placed for delivery of services to the under threes. In the case of supplementary feeding for preschoolers, beneficiaries outside ICDS should be brought within the ambit of new ICDS projects through appropriate phasing. Secondly, community participation for feeding should be compulsorily introduced in the anganwadi/balwadi or the preschool feeding centres. This can happen only when there are adequate food stocks among the poor families at home. On one hand the Government may have to ensure through various mechanisms, provision of subsidised or free rations to the families below poverty line. Local production, procurement, distribution and management of food could go a long way. Involvement of the beneficiary family members in the feeding programme supported by an educational component would help in a better understanding of nutrition.

.....75/-

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VIII

STRATEGIES AND RECOMMENDATIONS

STRATEGIES AND RECOMMENDATIONS

The Working Group met on two consecutive days, with the view to formulate strategies for reduction of malnutrition in India.

8.2 Within the time at its disposal, the Group briefly reviewed the existing strategies laid down for the Sixth Plan 1980-85 in the light of plan for child development upto 2000 AD as well as the existing programmes of child development. Based on discussions and views of various members, the following strategies and recommendations were made for strengthening and modifying the existing framework. The Group did not go into the financial details especially at the level of individual States, districts, blocks and villages or with the annual allotments.

8.3 The Group arrived at the strategies to combat the problem keeping in view the long term implications and the measures that would have to be taken up on an immediate-priority basis within the next 20 years i.e. of 1980-2000. The Group felt that priority action needs to be initiated on those aspects that will strengthen the tasks of achieving adequate nutrition for all by 2000 AD.

Agriculture, food production and distribution:

8.4 The main thrust is the need for increase in production of cereals with more emphasis on pulses and oilseeds. There was also a need for increase in the irrigation potential through small and medium irrigation projects.

8.4.1 Use of high yielding varieties of grains and chemical fertilizers to increase the yield should be encouraged by the farmers. Research and extension in these areas would also need to be undertaken.

.....77/-

8.42 Considerable expansion of the public distribution system was necessary to make available food material at reasonable rates, Preferential expansion would have to be considered in remote areas and in areas where the poor and socially disadvantaged groups were concentrated.

8.43 Scientific storage facilities in the rural areas should be provided and farmers should be educated and motivated to use them.

(Action: Ministry of Agriculture and Irrigation).

8.44 Home Science and agricultural institutions should work to improve the household storage facilities.

(Action: Home Science Colleges & Agricultural University)

8.45 Mechanisation of fair price shops would be necessary to prevent adulteration and pilferage.

8.46 Availability of ration cards to the needy people, especially in backward and slum areas should be ensured.

(Action: Ministry of Agriculture & Irrigation)

8.47 Expansion of allied activities of agriculture viz. dairy, poultry, fish development through cooperatives was suggested so that these nutritionally rich foodstuff were available at reasonable price in rural areas.

8.48 Weaning foods should be made available at a low cost through fair price shops especially in backward areas.

8.49 Rationing of pasteurized milk in polypack sachets could be considered in areas of scarcity.

8.4.10 The families below the poverty line should get rations at a lower cost from the existing fair price shops through the use of food stamps.

(Action: Ministry of Agriculture and Irrigation)

.....78/-

Maternal and Child Health Services

8.5 There was a general impression that breast feeding practice in India was on the decline. Suitable intervention programmes using educational material could be strengthened to prolong duration of the feeding practices.

(Ministry of Social Welfare, Health and Family Welfare, UNICEF, Home Science Colleges).

8.5.1 Infant mortality continues to be high at 114 per thousand live births, despite numerous MCH programmes in the plans. There are also considerable inter State and regional disparities in the provision of primary health care services. The national programmes which are in operation for promotion of maternal and child health care including immunisation, prophylaxis against Vitamin A and iron deficiencies would have to be strengthened.

(Action:Ministry of Health and Family Welfare)

8.5.2 Several micro level studies were also necessary to identify the gaps in the existing system of health care so that the programmes could be restructured or modified to ensure community participation, acceptability, utilisation and effective delivery of services.

8.5.3 Diarrhoeal diseases accounted for almost 33 per cent of infant death and also constituted a major cause for morbidity and mortality among children. It was observed that on an average around 200 million diarrhoeal episodes occured each year among children of which about 2 million were grossly dehydrated and required hospitalisation. Domicilliary management of diarrhoeal diseases, provision of Oral Rehydration Therapy by the field workers such as CHG, AWW etc would have to be stepped up as the delivery of such services had great potential even in the rural areas, where health care facilities were limited.

(Action: Ministry of Health & Family Welfare & Ministry of Social Welfare)

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8.5.4 Continued research would be necessary to determine the role of pathogens such as E.coli and rota virus and other less known microbiological agents in the aetiology of diarrhoea. Also, operational research studies would be necessary to strengthen the existing delivery of services.

(Action: Ministry of Health & Family Welfare, Ministry of Social Welfare).

Family Planning

8.6 It was observed that nutrition and family planning, the two vital interrelated national programmes had suffered in the past leaving no impressive or laudable residues. Family Planning should, therefore form the base of the responsibility for combating malnutrition. The main thrust in this area would have to be to improve the National Family Planning Programme, the acceptability of the existing methods of contraception, introducing various spacing methods preferably with larger incentives; developing new steroid derivatives or drugs and their methods of use and intensification of research on the immunological approaches to contraception.

8.6.1 The use of monthly injectables viz. combination of NET Denenthate and estradiol, and subdermal and transdermal implants would have to be tried among a larger segment of the eligible groups of population to determine the acceptability of these methods.

8.6.2 It had been observed that in many areas the governmental health services had been underutilized due to sporadic and inadequate supply of drugs and contraceptives; large distance to be covered by the people to reach the PHC's; illiteracy and lack of awareness among people to utilise these services. Thus the existing infrastructure would have to be geared up to overcome these problems. In areas where the percentage of

eligible couples covered by contraception is low, additional, training to extension workers would have to be imparted for improving their motivational skills.

8.6.3 The use of laproscopy and mini lapratomy techniques had had considerable publicity and was also considered to have various advantages. The use of these techniques in the National Family Planning Programme would have to be determined.

8.6.4 Research in the field of Immunological approaches to contraception especially development of contraceptive vaccine by raising anti bodies against FSH or antisperin LDH enzymes would have to strengthened. The emphasis may have to be on the development of a suitable technology that would yield a sustained response against antigens.

(Action: Ministry of Health and Family Welfare)

Nutrition

8.7 Rigorous steps should be taken to check food adulteration. Food adulteration has been responsible for much more nutritional losses than is conceded. The grains issued under NREP is generally contaminated. Processed foods in the market are hardly free from physical contamination or adulteration. It was suggested that investment was needed in the nutrition budget for enforcement of prevention of adulteration.

8.7.1 Research on consumer patterns and consumer acceptability would have to be encouraged as the present knowledge was fragmentary.

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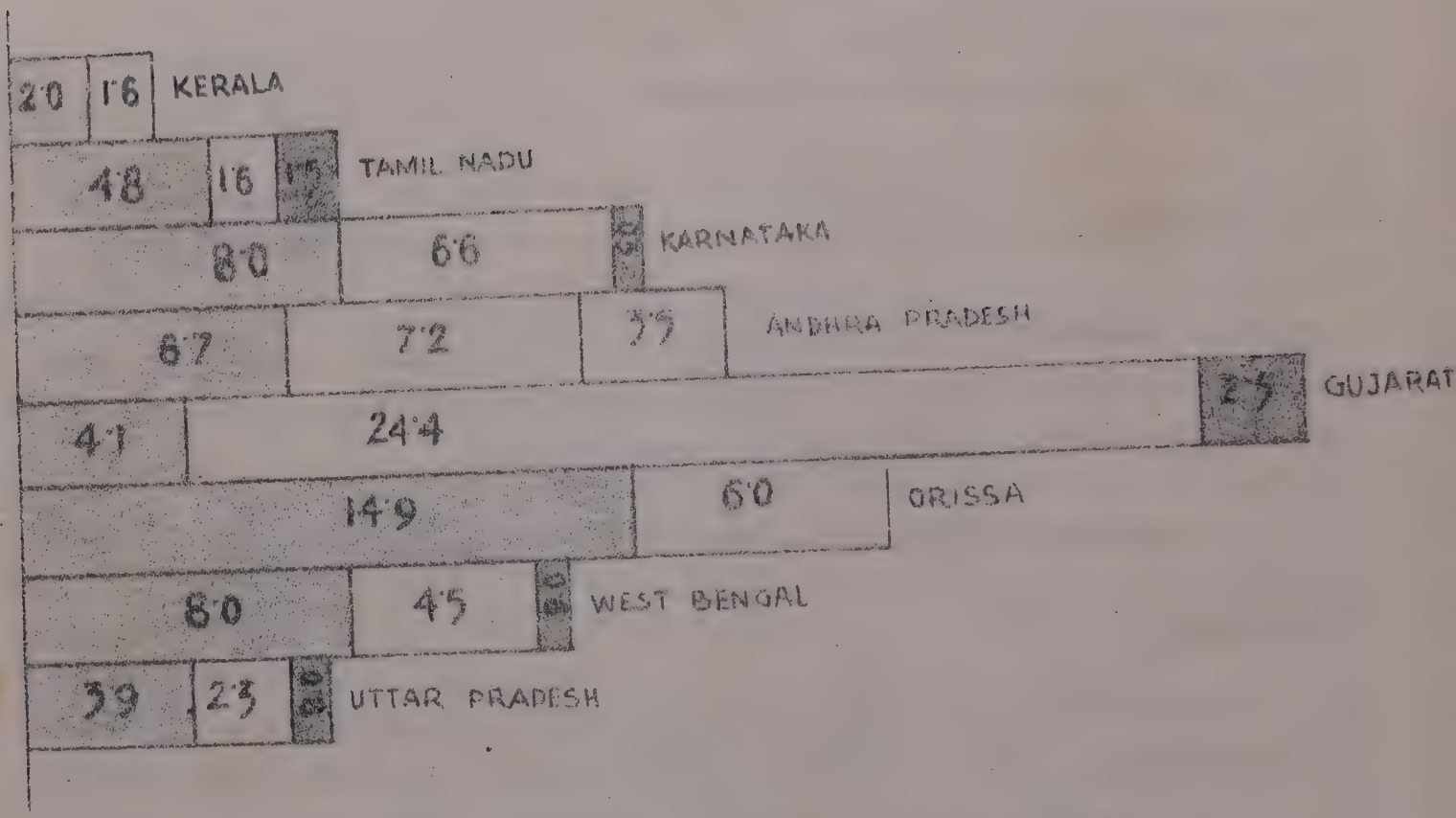
PERCETAGE PREVALENCY OF NUTRITIONAL DEFICIENCY SIGNS



SCALE : 1 CM = 0·5%

MARASMUS

VIT. 'A' DEFICIENCY

'B' COMPLEX DEFICIENCY

SOURCE : NNMB - 1981

8.7.2 There was also a need for enforcement of labour laws for providing permanent and mobile creches in the organised sector and certain notified unorganised sectors employing migrant labour.

(Action: Ministry of Law)

8.7.3 Supplementary feeding programmes should be expanded in areas where facilities of health and other related services exist.

(Action: Ministry of Social Welfare)

8.7.4 The ICDS projects which provide a package of services should be expanded keeping in view the available resources, infrastructure available and the training capacity of the functionaries. The programme should also take into account the various drawbacks encountered in the implementation as revealed by various evaluation studies and necessary steps should be taken to overcome them so as to achieve an efficient coordination at the field level.

(Action: Ministry of Social Welfare)

8.7.5 The vulnerable group of population especially the pregnant women and children in the age group 0-3 years which has so far been neglected should get special attention. The group suggested setting up of well baby clinics at the anganwadi centres in the ICDS, at weekly intervals, and extensive nutrition education to mothers should be given in such clinics. It was also recommended that weekly rations in the form of ready to eat/promix packets should be given to the mothers on the clinic days.

.....82/-

8.7.6. The functionaries of the ICDS scheme should be given incentive which would encourage them to work towards reducing the severe forms of malnutrition. The anganwadi worker could be given some incentive in the form of cash for improvement of every severely malnourished case.

8.7.7 Sanitation facilities should be provided at the anganwadi centres to prevent parasitic infection among children and also help in inculcating the concept of maintaining hygienic surroundings.

8.7.8 Safe drinking water supply in the problem villages of the ICDS scheme should get preference. Handpumps could be provided near the anganwadi centres with community support.

8.7.9. Common childhood morbidities such as diarrhoea and measles which adversely affect the nutritional status should be controlled. The Group was greatly concerned with the high level of infant mortality (9.6%) mainly due to diarrhoeal and respiratory diseases and recommended that the level be brought down by atleast 50% through appropriate measures by 1990.

8.7.10 Prasitic infestation which is another important cause of malnutrition amongst children should get more attention. Deworming of children once every six months should be a part of nutrition intervention programmes.

8.7.11 Improve management of the food system for supplementary nutrition through organised efforts are needed to develop a structure which will sustain in low cost, locally available and acceptable technology with adequate nutrition.

(Action: Ministry of Social Welfare)

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Continued education of health functionaries and field level workers is necessary to increase the acceptability of home-made remedies such as oral rehydration therapy for diarrhoeal episodes.

(Action: Ministry of Health & Family Welfare)

8.7.12 Research is required on the pricing and distribution policy of food with the objectives of securing a balanced diet, their availability and intra family distribution.

(Action: NIN and Home Science College)

8.7.13 Research is also necessary on community education, intepersonal communication and use of mass media for dissemination of information on nutritional contents of local foods, reinforcement or supplementation and modes of preparation.

(Action: NIN, NIPCCD, Home Science College).

8.7.14 Necessary funds for monitoring and evaluation of the ongoing nutrition programmes particularly in the areas of ICDS, SNP, Balwadi Nutrition Programmes MCH and family planning should be augmented. It would also be worthwhile to assess the functioning of the school mid-day meals programmes and their linkages with the school health programme. The evaluation should be conducted by programme. The Evaluation should be conducted by independent agencies.

Research om socio-economic determinats of nutrition and family planning would have to be given due importance. Research should be strengthened in specialised Institutions and voluntary organisations for developing materials, educational models, lessons etc. and use of mass media and interpersonal communication for combating malnutrition.

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Nutritional deficiency diseases:

A; Endemic Goitre

8.8 Hot spots (with goitre prevalence more than 50 percent) where prophylactic iodisation measure need to be implemented should be identified on a war footing.

8.8.1 Stepping up production and effective distribution and consumption in severe endemic areas.

8.8.2 The disparity in the retail price of iodised and non-iodised salt should be levelled.

8.8.3 Entry of common salt to the endemic areas should be stepped up.

8.8.4 Monitoring the quality control of iodised salt. Depending on the condition and urgency emergent proplylactic measures such as supply of iodised oil should be introduced.

8.8.5 Effective and ongoing coordination between the different sectors involved in the implementation of the programme.

(Action Ministry of Health & F.W.)

Anaemia

8.9 The distribution of iron and folic acid tablets through the PHC infrastructure needs to be strengthened in order to achieve 50 percent coverage of functionaries as envisaged in the Health for All by 2000 AD document.

8.9.1 This can be done by creating awareness among the beneficiaries through nutrition and health education.

8.9.2 Motivation among the functionaries to have effective coverage among the target groups.

8.9.3 The large scale field trials conducted by four National Institutes with iron fortified salt has been reported to be successful. Before this programme is implemented on a large scale, it needs to be tried on a pilot basis.

(Action Ministry of Health & F.W.)

&Vitamin A deficiency

8.10 Popularisation of vitamin A rich foods through education

(Action Home Science Colleges)

8.10.1 The prophylactic programme against Vitamin A deficiency through massive dose, needs to be strengthened by making adequate supply of the vitamin and creating awareness among the community so that the service is utilised.

(Action Ministry of Health & F.W.)

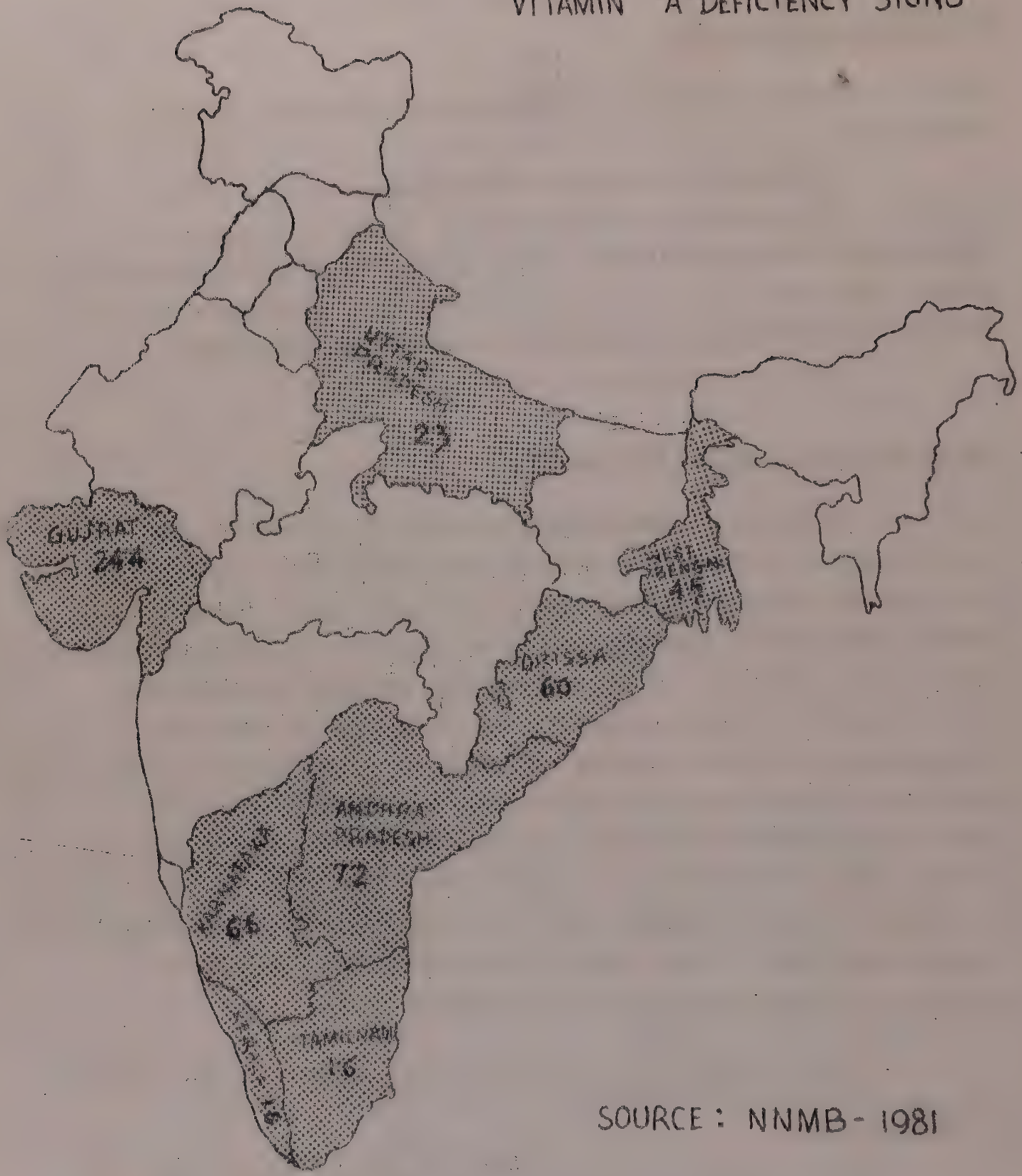
Nutrition and Health Education

8.11 Lessons on nutrition, health, population etc. need to be introduced in school and adult literacy text books The mass media and interpersonal communication should supplement the school lessons. The content for schools should include the effects of immunization, primary health care, clean drinking water; simple rules of personal hygiene; maintenance of good sanitary conditions eradication of intestinal helminths and parasites; wholesome local foods, their preparation and their preference to processed marketed foods; role of vitamins and minerals. The educational content for adults should include the relationships between nutritional status and size of the family; family planning; infant feeding and nutrition during pregnancy etc.

The messages spread through various agencies should be consistent.

(Action: Ministry of Food and Civil Supplies, Ministry of Social Welfare, Ministry of Health and Family Welfare, Ministry of Information, Ministry of Education & Broadcasting.

PERCENTAGE PREVALENCE OF VITAMIN 'A' DEFICIENCY SIGNS



SOURCE : NNMB - 1981

Employment and income

8.12 The National Rural Employment Programme still holds the best potential for a guaranteed income to the poor and at the same time realising enduring national assets. The programme would have to be stregthened considerably if nutritional objectives are to be realised.

8.12.1 Subsidiary occupations and income generating projects like small scale production units or ancillary units are potential guarantees for subsidiary income. The income generating activities would have to be carefully woven into the relevant programmes mentioned before so as to achieve effective integration and realisation of the objectives. With a coordinated endeavour, the overhead costs of most programmes are reduced thus enabling them to realise the objectives of solving the problem of malnutriton easily.

(Action: Ministry of Rural Development)

U
K. Ideep/7080
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Annexure-I

List of participants for the Seminar on 'Strategies to reduce Malnutrition in India

(2nd-3rd May, 1984)

1. Shri M.S. Dayal
Joint Secretary (CD)
Ministry of Social Welfare
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2. Shri R.K. Saha,
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3. Dr. P.R. Vishambaran
Joint Manager (Technical)
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4. Shri K. Gopinatha Menon
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5. Dr. B.N. Tandon
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6. Dr. Indra Bhargava
Deputy Commissioner (MCH),
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New Delhi.

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7. Dr. (Smt.) K.K. Sharma
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10. Dr. P.N. Mathur,
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I.C.A.R.
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11. Dr. Padam Singh
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Perspective Planning Division,
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12. Dr. S. Malhan
Director
Institute of Home Economics
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13. Dr. Savira Chavra
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16. Dr. G. Clugston
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19. Dr. S. Natarajan,
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20. Ms. Mary Ann Anderson
Nutrition advisor
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American Embassy
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.. 4/-

21. Mrs. Sneh Rewal
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1. Ms. Rita Singh Raghuvanshi
Assistant Professor,
College of Home Science
G.B. Pant University of
Agriculture and Technolcgy,
Pant Nagar.

2. Dr. U.C. Gupta
Project Director
Dr. A.V. Baliga Foundation
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3. Dr. C.S. Pandav,
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AIIMS, Ansari Nagar,
New Delhi-110029.

4. Shri Gautam Shah
Prof. in Delhi University,
Raj Kumari, 82 Prem Nagar
Delhi-110007.

NIPCCD Participants

1. Dr. D. Paul Chowdhry
Director

2. Dr. Satinder Bajaj
Deputy Director (CD)

3. Smt. Rajni Khanna
Specialist (Nutrition)

4. Dr. Dinesh Paul
Specialist (Health)

...5/-

5. Smt. Minnie Mathew
Research Associate (Nutrition)

6. Ms. Anjali Phadke
N.E.D.

7. Ms. Punam Ohri
Research Assistant (Nutrition)

NATIONAL INSTITUTE OF PUBLIC COOPERATION AND CHILD DEVELOPMENT

Seminar on 'Strategies to Reduce Malnutrition in India'

(2nd - 3rd May, 1984)

AGENDA

Wednesday, 2nd May, 1984

1. Welcome address. Discussion on agenda and description of the plan of the Seminar. (9.30 a.m.-10.15 a.m.)

   - Dr. D. Paul Chowdhry,
   Director,
   NIPCCD.

2. A brief review of the programmes under the various sectors. (10.15 a.m.-1.00 p.m.)

	Aspect to be discussed	Speaker
a.	Poverty estimations.	Shri Padam Singh Joint Advisor, Perspective Planning Division, Planning Commission, New Delhi.
b.	The agriculture sector	Dr. P.N. Mathur, Asst. Director General, ICAR, New Delhi.
c.	Public Distribution System and Storage	Shri P.R. Vishwam Bharan, Manager, Technical, Central Warehousing Corporation, New Delhi.
d.	Intervention programmes Under the Ministry of Health and Family Welfare	Dr. Indra Bhargava, Deputy Commissioner (MCH), Ministry of Health and Family Welfare, Nirman Bhavan, New Delhi.
e.	Intervention programmes under the Ministry of Social Welfare.	Shri R.K. Saha Deputy Secretary Ministry of Social Welfare, New Delhi.

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f.	Monitoring of health and nutrition aspects in ICDS	Dr. B.N. Tandon, Head, Deptt. of Gastroenterology AIIMS, New Delhi.
g.	Evaluation of nutrition programmes in India	Dr. Ashok Iyenger Research Officer, Social Welfare and Nutrition Unit, Planning Commission, New Delhi.
h.	Role of international organisation in the Intervention programmes.	

Chair Person: Shri M.S. Dayal, Joint Secretary (CD), Ministry of Social Welfare, New Delhi.

LUNCH (1.00 p.m.-2.00 p.m.)

3. The lessons learnt from the Past (2.00 p.m.-2.30 p.m.)

- Dr. K. Bagchi
Nutrition Consultant,
ICMR, New Delhi.

4. Formulation of important strategies to reduce malnutrition in India (3.30 p.m.-5.30 p.m.)

Chair person : Dr. K. Bagchi
Nutrition Consultant
ICMR,
New Delhi.

Thursday 3rd May, 1984

1. Finalisation of strategies (10.00 a.m.- 3.30 p.m.)

- Dr. (Smt.) S. Bajaj
Deputy Director (CD)
NIPCCD.

2. Valedictory Session (4.00 P.M.)

- Dr. Harcharan Singh
Joint Advisor,
Health and Family Welfare,
New Delhi.

Annexure-III

Valedictory Address : by Shri Harcharan Singh
Joint Advisor,
Health and Family Welfare,
Planning Commission .

Nutrition is an important area which has received very little attention of the Government. While analysing the cause for this area to be disregarded he brought out the important role of the professionals. Since the subject nutrition is a large area which cuts into various spheres, it becomes the interest of several professionals and it remains nobody's business. This area now belongs to the Social Welfare Sector. However it is very important that all institutions/organisations concerned with the problem of nutrition come together and make a concerted effort in this direction.

Seminars of this type should be taken up repeatedly in order to have a cumulative effect. If the people who participate in such seminars understood their responsibility, there would be multiplicity to the cumulative effect. The Planning Commission has taken up a series of discussions for formulating the VIIth five year plan and these have brought about the least perceptible integration. The various disciplines should act and interact at various levels though it has not happened at the highest level.

It is the responsibility of the professionals to convince the politicians about this important cause. We have failed to generate nutrition, health and social economists of a worthwhile nature. They fail to express the problem and the related intervention in terms of economics.

Professionals tend to be specific and idealistic. There is always a conflict between the ideal and the practical solution to a problem. We should hope to reach the ideal through practical ways. Besides, there should be multiple solutions to a single problem. The strategies that are suggested should not just state what to do but how to do and the economics of it.

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The professionals should influence the press and other publicity media about this problem, so that the public is made aware of their responsibility for solving their own problems. Unless people become responsible, no amount of Government responsibility can solve any of the health problems. We cannot succeed until we use the highly developed technological channels of communication.

Nutrition education and management information system are very important. Management information, was the soul for improvement of any programme, and the computers are a great boon which can be used judiciously for drawing data from all developmental programmes.

7067/10/84

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